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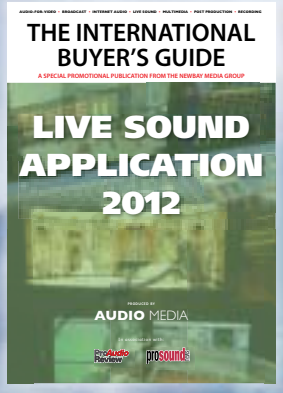
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AUDIO MEDIA

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## Prism Sound Lyra

Exclusive Preview

## SD5 MAIN FEATURES:

- 124 Input Channels
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www.digico.biz/sd5

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As sound came to cinema, there were some casualties, but *The Testament of Dr.Mabuse* was not one of those – infact, it was quite experimental in its approach towards early audio.

Every now and again I am reminded what skill there is in illusion. And sometimes I'm reminded how not to do it. One experience I hate is the jolt from reality you get when something is suddenly and unintentionally 'unreal'.

I need to make something clear here. A film, programme, book, anything, has its own reality; something you can be a part of. Being unintentionally knocked off a fictional reality is just as damaging to the experience as being knocked off 'real' reality.

For example, during a family action film the other night one of the gun shots was layered, very obviously, with a kind of ethereal lion roar. It almost fitted with the scene – an other-worldly location – but didn't quite make it. It jarred. What then followed was a commentary from the whole family on sounds that weren't real, as they occurred – including the classic screeching-tyres-on-mud.

If it hadn't been for that single gunshot, that conversation would never have taken place, and the film would have enveloped me until the end. Instead, I went out to make the coffee without demanding someone press pause.

Don't get me wrong, sometimes this alienation can be brilliant – when it's intentional, and well executed. For example, I'm pretty sure I could watch *Hot Fuzz* without dialogue and still find it at least 80 percent as funny just because the sound is so well choreographed. You have to be good to be able to take the mickey out of a sound effect with just a sound effect.

However, if the alienation or the un-unreality occurs because of bad work, then it can ruin the whole production. A viewer will jump off your reality back into his or her own, and the illusion will burn. That's a big responsibility. It means that everybody's contribution has to fit, has to bear its share of the reality burden, and has to be so outstanding that it does not stand out. No pressure then...

Thankfully, my children wrapped themselves back up in the fiction of that film faster than I could and got to the end fully 'in the zone'. Myself, I was left wondering whether that ill-considered gunshot constitutes a mechanical flaw in the product, and whether I could legitimately send it back for repair or refund. If I ever become a grumpy old man, I might give it a go.

Paul Mac, *Editor*

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www.sennheiser.com

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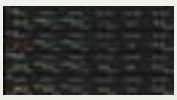
# TSL Loudness

RTW has introduced new options and enhancements for its SoundControl and SurroundMonitor ranges. The SD versions now ship with a 3G-enabled SDI de-embedder and Dolby E, DD+, and AC-3 decoders. The firmware now supports the 7.1 DD+ format.
**www.rtw.de**

Omnia Audio has upgraded its Omnia.11 FM and FM/HD processor with version 1.2 software. Improvements include deep bass enhancement, a new bass thunder control, and new presets. There is also a new software-based re-boot capability, new import filters, and more.
www.omniaaudio.com



At IBC Trinnov Audio debuted the new SmartMeter with improvements including the unique Time Code synchronisation of Loudness/True Peak measurements, allowing real-time logging and consistent Loudness/LRA measurements at any time, throughout the mixing stage. Every Loudness value is stored and time stamped.
**www.trinnov.com**

LYNX Technik used IBC to debut its yellobric range of fibre-optic splitters. The units are bi-directional and split optical signals into multiple paths, doubling or quadrupling the fibre functionality. The units are passive, and offer a choice of power split ratios.
**www.yellobrik.com**

Audio Wireless debuted its new AWTC-1 wireless timecode link at IBC this year. The system is programmable across a 500MHz range and incorporates quick transmit-receive mode switching. The design uses "Cognitive radio techniques to achieve interference-avoiding dynamic frequency diversity," for optimum performance for multi-camera shoots.
**www.audiowireless.co.uk**

At IBC TSL Professional Products announced several loudness, audio monitoring, and power management products, as well as its purchase of Soundfield (see page 28).

TSL and DK technologies jointly announced the PAM PiCo meter. The unit is derived from the compact DK Meter but implements a number of UI modifications to suit TSL's customer and product base. There are stereo and multi-channel versions with analogue/AES or SDI, and the DK Starfish display.

**"TSL launched its new TouchMix products: AVM-T-MIX and Touchmix pilot."**

TSL also debuted the PAM2 MK2, an upgrade to the flagship multi-channel monitoring unit for compliance measurement and confidence checks that includes audio delay, SDI output, USB port for preset save/recall, and an Ethernet port for browsers and system management.

Also in monitoring, TSL launched its new TouchMix products: AVM-T-MIX and Touchmix pilot. These incorporate twin 20-channel audio mixers and rack mount monitoring for use in the broadcast truck or broadcast studio, with the aid of a 22:9 aspect ratio touch screen. The TouchMix Pilot is a version with desktop remote unit and rack mount host unit.

For entry level monitoring solutions, TSL launched the enhanced Monitor Plus range of monitoring units. The MPA1-3G features single HD-SDI input, while the MPA1-ASB and the MPA1-ASC units comes in either dual stereo or eight stereo input versions.
www.tsl.co.uk

## CEDAR Strikes The Stage

Following up on a long line of noise reduction tools, CEDAR has announced the DNS 8 Live, a multi-channel noise suppressor specifically for live production scenarios – on stage or in broadcast. Originally, the CEDAR DNS (Dialogue Noise Suppression) was designed for offline use, but the popularity of the process in live productions has prompted CEDAR to release the DNS 8 Live. The unit has eight channels of noise suppression using a new, simplified 'two-knob' approach, as well as a more detailed editing mode. The unit boasts 'near-zero latency', both mains and four-pin 12VDC power options, and browser-based remote control capability.
**www.cedar-audio.com**

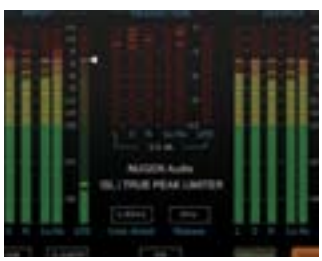
## ENCO + AEQ

ENCO and AEQ have announced a link that allows bi-directional communication between AEQ Forum and Capitol mixing consoles and ENCO DAD via IP, giving customers maximum ease of operation. The AEQ Forum and Capitol consoles incorporate USB audio devices that can be connected directly to an ENCO DAD workstation, eliminating the need for a sound card. ENCO and AEQ are teaming up around this new interface as both companies will offer advantageous package deals through their dealer and reseller networks.
**www.aeq.eu**

## SSL Double Act

Solid State Logic brought both its new ADR production system (see page 46), and V5 software for the C100 digital broadcast console. The new software implements dual operator mode, which provides two operators the ability to have independent physical controls and access to shared audio assets, through a single console processing engine, routing, and I/O configuration. The system allows for an unlimited number of consecutive eight-channel fader bays to be assigned to a second operator. These bays can be located at either end of a C100 console, or separated and installed in a remote location such as a production gallery.
**www.solid-state-logic.com**

## Nugen'sTrue Peak



NUGEN Audio has launched ISL, an inter-sample True-Peak limiter that it says gives complete control over peak levels in audio signals from mono to 5.1. ISL diverges from traditional approaches to limiting by measuring inter-sample peaks and allowing the user to set the true-peak limit, rather than the traditional threshold at which limiting begins. By measuring and correcting for inter-sample levels, ISL protects against distortion that can be introduced when codecs such as mp3 and AAC are applied downstream. Using the standardised true-peak algorithms of ITU-R B.S. 1770 and related standards, ISL is suitable for post-production and broadcast applications.
**www.nugenaudio.com**

## Aural Addition

Stagetec has released a new firmware, version 3.10, for its flagship Aurus production console. One of the main new features is an enhancement to the dynamic automation system. The new mix-edit function enables sections of timecode-based automation to be copied and pasted to a different position. Full access to all tracks of the pasted section is maintained, while the timecode of the new mix is adjusted automatically in length. Existing Aurus users receive the new firmware on request or with their next routine maintenance.
**www.stagetec.com**

>

# 664 Mixer/Recorder

Sound Devices has announced the 664 Production Mixer and the companion CL-6 Expander. The 664 builds upon the features of the 552, adding expanded I/O connectivity and recording capabilities, along with greater flexibility and ease-of-use. Its six input channels have dedicated controls for trim, fader, pan, and PFL; also, the inputs and four output busses are all recordable, for a total of 10 tracks of recording.

The unit's six ultra-low noise, high-dynamic range, transformerless pre-amps accept mic- or line-level signals and include analogue peak limiters, high-pass filters, input trim control, and direct outputs. For digital connections, inputs one and six can be selected as AES3 or AES42 inputs. The 664 can record 16- or 24-bit broadcast WAV files to SD and/or CompactFlash cards (dual card slots).

**"The 664 builds upon the features of the 552, adding expanded I/O connectivity and recording capabilites..."**

The CL-6 Expander is specifically designed to add six analogue line-level inputs to the 664 Production Mixer. With the CL-6 attached, the direct output connectors are available as recordable inputs, controlled by the CL-6 faders. With the 664 Production Mixer connected to the CL-6 Expander, users can now record up to 12 input channels and four outputs, for a total of 16 tracks.

www.sounddevices.com.

Waves Audio has released its new NS1 Noise Suppressor. According to Waves, NS1 intelligently differentiates between dialogue and unwanted noise, analysing and adapting to a signal in real time. The process is controlled by a single fader and features an attenuation meter.
**www.waves.com**

Scarlett 2i4 is another new USB bus-powered interface for Mac or PC from Focusrite. It's a two-in, four-out device in an aluminium body, featuring a pair of Focusrite mic pre-amps with mic, line, and instrument inputs. Additional features include 24-bit 96kHz conversion, over 105dB dynamic range, and more.
**www.focsrite.com**

By revampng its first dynamic microphone, AKG has produced a new kick drum mic – the D12 VR. By applying phantom power (optional) you get the internal active filter, offering three active sound shapes for recording.
**www.akg.com**

Sennheiser has expanded its MKH studio microphone series with the addition of the wide cardioid MKH 8090. Sennheiser is aiming the mic at orchestral recordings as both a main and a spot microphone. An optional screw-on module can convert it to a digital AES42 microphone.
**www.sennheiser.co.uk**

Focusrite's new iTrack Solo is a compact, two-channel interface for iOS, though fully compatible with Mac and PC. It features a Focusrite microphone pre-amp with phantom power, and an instrument input.
**www.focusrite.com**

## Baby Radio Board

The new Allen & Heath XB10 is a new compact broadcast mixer aimed at small radio or Internet broadcast studios. Based on the larger XB-14, the XB-10 has three mic/line and three stereo inputs, a telephone communication channel, mic channel on switch sensing, stereo channel start/cue outputs for CD deck transport control, and automatic muting of speaker outputs. A separate monitor mix can be created for operator and guest or presenter, and the operator can communicate off-air to the studio or telephone callers using the 'Talk' feature. XB-10 also features a built-in full duplex USB soundcard and each mic channel has its own compressor
**www.allen-heath.com**

## Getting Jünger

Jünger Audio unveiled V*AP at IBC, a brand new two-channel voice processor aimed at radio stations and TV production voice-over studios. It features many traditional processes, but two big ones are the dedicated voice leveler, and the 'Spectral Signature' process. The leveller can help to integrate voice programs into loudness-based broadcasting on the fly and with the optional SDI I/O card, automated voice-over for embedded audio becomes an attractive feature. Spectral Signature is an automatic spectral sound algorithm. Users can analyse the ideal recording of their voice and create pre-defined sound fingerprints that become a reference for the algorithm
**www.junger-audio.com**

## Marantz Updates

The Marantz Professional PMD661 MKII is the new successor to the PMD661 digital audio recorder. The hardware features an integrated stereo condenser mic array, balanced mic and balanced line XLR inputs, as well as unbalanced line outputs on RCA connectors and a secondary unbalanced line input on 3.5 mm mini jack connector. The unit can use SDHC media, matched by five hours' recording time from four AA batteries, and drag and drop file transfer is supported via the USB port. The 'Retake' feature takes you back though the previously recorded audio and creates a drop-in point to overdub. Also new is the PMD620 MKII.
**www.d-mpro.com**

## TC Out Loud

Updates to TC Electronics loudness offerings came thick and fast at the IBC exhibition this year. First was version 3.40 software for the DB-4 and DB-8 transmission processors, which includes a new ALC6 Advanced Loudness Correction processor, adding BS.1770 compliant Loudness Correction and True-peak limiting. It also features the adaptive Stridency Reduction parameter and advanced normalisation features. ALC6 is also bundled with the DMix processor to form the new 'Live Aid' license for the System 6000 MKII. The 'Live Aid' license allows for compliance with loudness-based broadcast standards with two loudness-processing algorithms.
**www.tcelectronic.com**

## Playing Nice

Integration was the name of the game for Riedel at IBC, as it announced several new co-operative improvements to its MediorNet and RockNet networks. The RockNet RN.334.MD MADI interface allows intelligent interfacing between RockNet Digital Audio Networks and SSL mixing consoles, including remote control of all gains. For Soundcraft, the new RN.344.SI card provides RockNet integration for any Soundcraft SI Compact console via the console's expansion slot. In its first firmware release the card supports 32 inputs and 32 outputs to the RockNet system. A rotary switch is provided for device identification and selection of up to 16 programmable routing tables.
**www.riedel.net**

## New Digital Mixer

Dynacord has launched its latest mixer: the CMS 600-3. The CMS 600-3 incorporates balanced XLR microphone inputs, a nine-band stereo equaliser in the master section, and switchable low-cut filters. An integrated USB 2.0 digital interface allows both live recording and playback. In addition to the six mono and two stereo analogue inputs, the CMS offers two stereo digital inputs via USB. Each channel has three sends, as well as a Balance/Pan control, a Mute and PFL switch, and a volume fader with Peak and Signal display. Two editable effects units are available onboard, switchable remotely.
**www.dynacord.com**

# Next Gen... Squared

Lawo's big news at the IBC exhibition this year was the debut of its second generation mc²56 production console.

Featuring cross-platform compatibility with its two larger mc² Series siblings (mc²90 and mc²66) the new console introduces new features aimed at streamlining workflow efficiencies.

**"The new mc²56 also offers improved ergonomics..."**

Among the mc²56's new features is real, two-man operation with fully de-centralised control of all parameters including bank and layer selection, EQ, dynamics, and buss assignment. The new mc²56 also offers improved ergonomics including expanded and simplified touch operation.

Other new features include button-glow colour-coding the channel strips, Illuminated rotary knobs, permanent metering of the 16 central faders, and local I/Os.

The mc²56 provides full support of RAVENNA technology for real time processing of audio signals in IP-based networked environments and also offers a wealth of DSP power, with support for upwards of 888 channels. There is full support for Lawo's Loudness metering functionality.

In the company's press release, Christian Struck (Product Manager, mc² series) notes: "This desk represents an ideal mixing environment for a wide range of mission critical audio applications. I'm confident this new console will be well received by all who sit down at the controls." The mc²56 is available in frame sizes from 16 to 80 faders.

www.lawo.com

## Shotgun Journalism

The new MKE 600 shotgun microphone from Sennheiser is aimed at video journalists. Its high directivity should keep noise from the camera down and a switchable high pass filter takes care of the handling and wind noise. Sennheiser claims a high level of speech intelligibility and a life-like sound. A shock mount with an integral flashmount adapter is included. The MKE 600 can be powered by either Phantom power, or a standard AA battery. A switch is provided to de-activate the battery power when the camera is not in use, thus preventing the battery from being discharged.

**www.sennheiser.co.uk**

iZotope has released the Toys Sound Library for use with Iris, the company's virtual instrument. iZotope says the library "plays on childhood nostalgia, evoking emotions ranging from joyful happiness to nightmarish terror," and includes presets such as Peanut Butter Nap, Unicorn Tears, and Mood Ring.

**www.izotope.com**

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## Thunder And Lightning

Avid has release a version of Pro Tools|HD Native with a Thunderbolt interface so now customers get the choice between Thunderbolt or a PCIe core card to connect Pro Tools HD Series interfaces. To coincide with this launch, Avid also announced three new VENUE HD System Bundles that pair a VENUE live sound system with the new Pro Tools|HD Native Thunderbolt interface. The D-Show HD Native 64 Bundle, Profile HD Native 64 Bundle, and Mix Rack HD Native 64 Bundle. All come with a Pro Tools|HD Native Thunderbolt interface.
**www.avid.com**

## Mixing It Up

NUGEN Audio and DSPECIALISTS are collaborating on the development of a software plug-in offering upmixing/downmixing between stereo and 5.1 surround. The plug-in will use the patented ISOSTEM technology.

NUGEN Audio will develop three versions of the plug-in, which will allow audio professionals to produce a mix in the studio using a stereo mixing process, with the software automating the conversion to 5.1. An upmix plug-in will provide pure upmix with flexible settings while the crossmix plug-in provides upmix as well as downmix, and a third version will provide the extended functionality available in the ISOSTEM expert model.
**www.dspecialists.de**
**www.nugenaudio.com**

## Nexus News

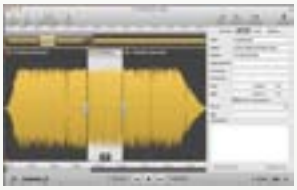
Stagetec announced several new enhancements for its Nexus audio network and Nexus-based audio consoles at the IBC exhibition this year. A new loudness monitoring feature forwards loudness values to the Pinguin LndServer, which writes them into a logging file, which is available for checking and analysis later on. Also, a new Dante XDIP interface module is available for the network from October. Lastly, Nexus signal processing is being combined with the UI of Stagetec's latest Polaris touch console. The Polaris touch XCMC will take advantage of the ultra-low Nexus latency and integration with MediaControl.
**www.stagetec.com**

## 742 Renewed

Studio Technologies has updated the Model 742 dual-audio-bus mixer to become the Model 742A. This rackmount unit is specifically designed for use in ENG, small production trucks, and 'utility applications'. The new unit is lighter and smaller, can now provide phantom power to the four mic/line inputs, has improved 'out of band' input rejection, and now has AC and DC powering options. Model 742A is not a traditional stereo mixer, but can create two independent monaural signals, making it excellent for general on-air tasks as well as signal monitoring, talent cueing, and intercom support.
**www.studio-tech.com**

Neyrinck has released its new SoundCode LtRt Tools for Pro Tools 10. It features LtRt encoding and Pro Logic Iix decoding for broadcasters and post facilities. The plug-n comes in AAX Native, AAX DSP, and Audiosuite versions.
**www.neyrinck.com**

Rogue Amoeba has announced the release of Fission 2, via the Mac App Store. Fission is an audio editor aimed at quick, easy edits of a variety of audio files. New features include export to any file, batch conversion, SoundCloud sharing, 'chapterised' AAC creation, and a new UI.
**www.rogueamoeba.com**



Metric Halo has announced availability of its new Production Bundle. Composed of seven MH plug-ins, the bundle includes ChannelStrip 3, Character, TransientControl, HaloVerb, Multiband Dynamics, Multiband Expander, and Precision DeEsser. There is a special introductory price of US$524
**www.mhlabs.com**

Camel Audio has announced availability of Alchemy 1.5, the latest version of its sample manipulation synthesiser. The new version includes a preset browser, over 1,000 presets, faster loading times, improved remote control from the Alchemy iOS app, and more. Value-added bundles with additional presets are also available.
**www.camelaudio.com**

## New Rack Recorder

Allen & Heath has launched the ICE-16, a 16-in/16-out audio interface that can record 16 channels direct to a USB hard drive or memory stick (24-bit 48kHz), or act as a DAW interface (up to 24-bt 96kHz). Multiple units can be linked and synchronised to expand the channel count.

Connection to a mixer is via quarter-inch jacks and signal/peak metering is provided for each channel – input or output. ASIO drivers and CoreAudio compliance ensure full compatibility with all the main DAWs. The UK price will be GB£654 (excluding VAT).
**www.allen-heath.com**

# Roland To Record

Roland Systems Group launched a new 8+2-channel portable recorder with timecode functionality. Due to be released early in 2013, the R-88 is an SDHC/SD card recorder with eight XLR I/O and the recording capability of eight main tracks plus a two channel stereo mix at 24 bit/96kHz (or tracks at 24bit/192kHz).

The unit also includes onboard effects, including limiter and low cut on each channel, and onboard mixing capability to two tracks with fader, pan, and EQ. Other available effects include six-band GEQ, Enhancer or DeEsser, and can be applied while recording or simply for monitoring/playback.

**"The R-88 can act as an SMPTE slave... or as a master to enable a fully synchronised video workflow"**

For connection to a computer, you can either use the R-88 as a removable drive from which to transfer the audio files, or you can use it as a USB audio interface, appearing to the computer as 10 individual inputs and eight individual outputs.

The R-88 can act as an SMPTE slave (with timecode regeneration on the timecode out) or as master to enable a fully synchronized video workflow. Further workflow aids include the Slate facility from onboard mic for memo recording, or Slate tone (1kHz/-20dBFS), and a jack input that allows control of play, record, rewind and more via optional single or dual footswitches.

www.rolandsg.co.uk

DEQX has launched its new HDP-Express Preamp Processor incorporating the company's Inline correction system for speakers, room, and media, plus sub-woofer integration. Express II supports two- or three-way active speakers for DEQX XO configurations.
**www.DEQX.com**

DSPECIALISTS Digitale Audio und Messsysteme has announced a software update for AUBION X.8, its ASIO-compatible, eight-in/two-out audio measurement interface. The new version includes higher sample rates (up to 192kHz), and improved measurement bandwidth increases to 80kHz due to this enhancement.
**www.dspecialists.de**

At IBC, HHB Communications announced an extension of the 'Cable For Life' (lifetime warranty) packaged products with the new high-quality Mini Jack cables. They come in a variety of lengths with XLR, quarteroinch jack, and phono options for one end (mini jack for the other, of course).
**www.mogami.co.uk**

## DAD Expands

NTP Technology chose IBC2012 for the world premiere of the DAD AX32 pristine audio converter, which features ultra flexible interface configuration and audio via IP Ethernet.

According to NTP Technology Sales Director Mikael Vest, "It offers the same pristine pre-amplification and analogue to digital conversion as the AX24 plus powerful additional features." For example, up to 32 channels can be housed in a single two rack unit chassis. All of those 32 microphone feeds can be connected back to the control room on a single Cat 5 cable via IP Ethernet. The Ethernet IP audio interface handles up to 512 channels via Dante.
**www.ntp.dk**

## Apogee Foursome

Apogee Electronics has launched Quartet, an audio interface and control centre for Mac featuring four inputs, eight outputs, MIDI, top panel display, and control. Quartet connects to any Mac via USB 2.0 at up to 192kHz sample rate. Four combination inputs offer mic, instrument, and line inputs with up to 75dB of gain. Quartet's eight digital inputs create the option of connecting an external interface, like the Apogee Ensemble, and the six individual outputs make surround mixing possible. Quartet includes a USB MIDI connection for connecting a keyboard, synth or DJ controller.
**www.apogeedigital.com**

## Powerhouse Host

Radial Engineering's newest entry to the 500 series host market is the Powerhouse, a 10-slot rack for the modular format. Each slot has separate XLR I/O with parallel TRS jacks for splitting, cross patching, or acting as a patch bay multi. Instead patching modules using cables, a FEED switch takes care of the patching, and the LINK switch is available for stereo modules. The Omniport jack connection accommodates special functions on Radial 500 series modules. For instance, the Omniport may be an instrument input on a pre-amp, a key input on a compressor, or even a remote switch.

**www.radialeng.com**

SM Pro Audio is now shipping the new M-Patch V2 compact, high quality passive attenuator and patch control device with A and B outputs. The unit now ships with two replaceable encoders, one of which is a 12-step device. Recommended price is €170.
**www.smproaudio.de**

## Focusrite Forte Interface

Focusrite has released its "flagship portable audio interface": Forte. This is a two-input, four-output USB 2.0 interface that works with both Mac and PC. It features two remote control mic pre-amps, as used in Focusrite's RedNet, and 24-bit/192kHz conversion. A colour OLED indicates I/O levels, mic pre-amp gain, and other useful information; and a single control knob operates with touch-sensitive icon buttons for full control. A breakout cable with locking connector is used for microphone (XLR) and line/instrument (TRS) inputs, but balanced line outs and independent headphone outputs are provided on the unit itself.

**www.focusrite.com**

## New Performer

MOTU is now shipping Digital Performer version 8, a major upgrade to the company's flagship audio workstation software. Significant new features include 64-bit operation, a new video playback engine, Punch Guard confidence recording, 17 new included plug-ins, 15 new user interface themes, and new plug-in management features. The new plug-ins include guitar processing path emulations, a multi-band dynamic equaliser, a precision delay, a de-esser, and more. The new video engine allows full-screen viewing of full 720 or 1080 HD video clips on a primary or secondary computer monitor, or over conventional HDMI or SDI when connected to a MOTU video interface.

**www.motu.com**

## iTunes Ready

Version 2 of the Sonnox Fraunhofer Pro-Codec Plug-In is ready. Version 2 introduces the ability to master for iTunes and supports the latest multi-channel audio codecs. Engineers can use Apple's iTunes Plus codec for real-time auditioning, for an efficient mix for the 'Mastered for iTunes' program. Inclusion of Apple's iTunes Plus codec enables monitoring of iTunes encoding chain, saving time and ensuring high quality output during the mixing process. In addition, Sonnox and Fraunhofer have integrated the latest MPEG Surround codec along with Advanced Audio Coding Low Complexity (AAC-LC) multi-channel and High Efficiency Advanced Audio Coding (HE-AAC) multi-channel support.

**www.sonnoxplugins.com**

Cadac is now shipping its CDC Four compact digital console. The board features 16 CADAC analogue mic pre-amps with gain control, fully emulated CADAC EQ, and an expandable input count of up to 64 inputs with a dedicated stage rack. CADAC describes it as "an amazing sounding – truly CADAC sounding – desk."
**www.cadac-sound.com**

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**Check out www.dpamicrophones.com/rs for more information**

# TwoTwo Aims For Top Spot

PMC has released a new range of powered two-way nearfield monitors at this year's IBC. The active twotwo series combines PMC's design pedigree and respected Advanced Transmission Line (ATL) bass loading technology with sophisticated DSP. The result, says PMC, is "A range of premium true reference tools designed for ultra-critical professional monitoring, in stereo or surround."

The range initially comprises two models, the twotwo.5 and twotwo.6. The twotwo.8 will be added in the new year. All share the same core design.

**"combines PMC's design pedigree and respected Advanced Transmission Line (ATL) bass loading technology with sophisticated DSP."**

PMC states that the transmission line design brings ultra-low distortion, extended bass response, and a consistent, natural-sounding frequency response. Connections include analogue phonos and XLRs, as well as an AES3 in, which will handle all sample rates up to 192kHz.

The onboard DSP engine, derived from that employed in PMC's IB2S-A, optimises the response of the drivers, guarantees a flawless crossover, maximises dispersion, and provides non-invasive protection using modelled excursion limiting. The built-in Class D dual-amplification system builds on the amplifiers developed for PMC's powered range, delivering 50W to the tweeter and 150W to the bass driver.

www.pmc-speakers.com/twotwo.

## Alliance Rock Out

The Plugin Alliance has announced availability of bx_rockrack PRO, a major update (V1.1) to bx_rockrack guitar plug-in. The bx_rockrack approach to classic guitar sounds is to model a select group of tube amps and complete recording chains. Simply select a speaker/recording chain, choose an amp, tweak the gain and EQ settings, and away you go. The new version now features seven amps, including two new jazz additions, all meticulously modelled to sound like classics. Other changes include a much-improved noise gate and an option to bypass those complete recording chains.

**www.brainworx-music.de**

## nvelop Rides Out

Elysia has released a 19-inch rack version of its nvelop impulse shaper processor. The unit gives the user control over the signal's attack and sustain characteristics. The process operates independently of the specific level of a signal, and (unlike with compressors), Elysia states that "You do not have to spend a lot of time trying to balance a set of complex control." For example a drum kit could be made to sound more aggressive and punchy by accenting the attack, or tones that are already overly aggressive can easily be tamed.

**www.elysia.com**

## JDK 500s

JDK Audio, the brand developed and engineered by API, has released the V10 single-channel mic pre-amp and the V12 single-channel compressor. Both units are

Universal Audio is shipping the Thunderbolt Option Card for the Apollo interface. The user-installable card has two Thunderbolt ports, and easily slides into the expansion bay of Apollo. Bus power is provided to all downstream Thunderbolt peripherals, allowing music producers to connect devices in series with the Apollo interface.

**www.uaudio.com**

Audio Wireless has launched its new range of miniature receivers and transmitters – rugged construction and wide switchable bandwidths of up to 120Mhz are the main selling points. The range currently contains the AWT-1 belt pack transmitter, the AWDR-1 true diversity receiver, and the AWMR-1/9V belt pack IEM receiver.

**www.audiowireless.co.uk**

Schertler has created two new live/studio packages aimed at string players and sound engineers by bring together its STAT-V, STAT-C, or STAT-B pickup, with the Yellow Single pre-amp for the STAT-PRO bundle and the Yellow Blender preamp for the STAT-ROAD bundle. The bridge-mounted STAT pickups are specially developed for use in loud musical environments with high levels of amplification.

**www.schertler.com**

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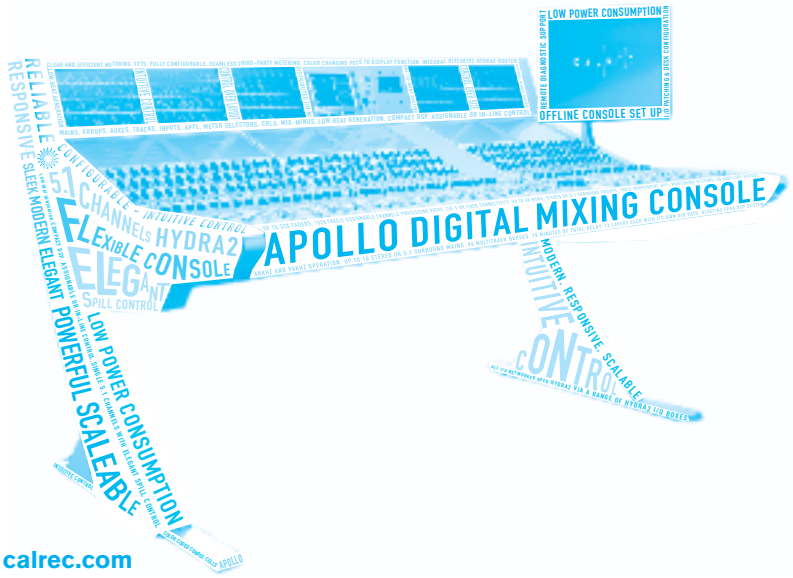


calrec.com

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The world's most successful broadcasters rely on Calrec consoles.

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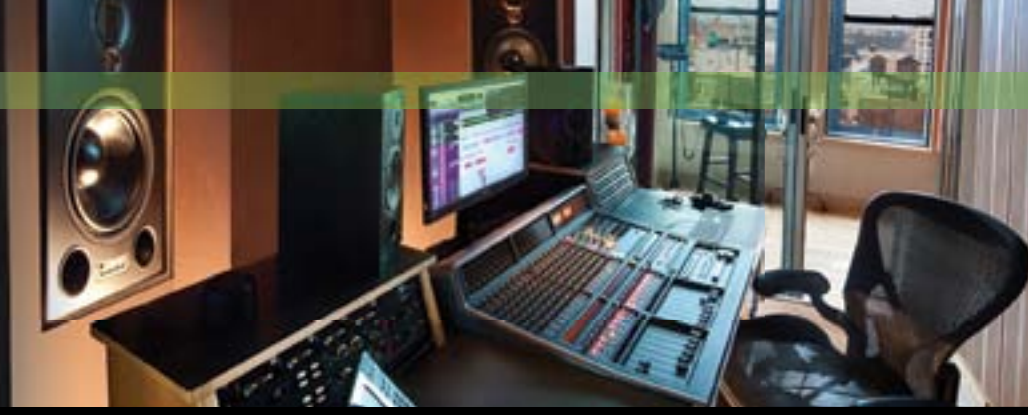

# Return To OZ

Founder of the MBK Entertainment company, Jeff Robinson, along with partners Jeanine Mclean, Misha Hedman, and Suzette Williams, have moved to large new offices in New York and created recording studio OZ. The company has marketing, publishing, TV, film, and concert promotions divisions, and represents acts such as Alicia Keys, SWV, and Elle Varner. "We always dreamed of owning an in-house studio", said MBK VP/Managing Partner Jeanine Mclean; "but our previous offices were too small to build something that would meet our needs." Following a flood, the company purchased the 19th floor at 519 8th Avenue, and brought the Walters-Storyk Design Group on board to help create the new studio. "WSDG's design incorporated all our ergonomic and aesthetic requirements," Mclean said. "And they enabled us to carve a second control room and spacious sound booth out of a space we originally envisioned as a single studio."

OZ Studios features a 230 square-foot live room and a 190 square-foot control room (A), outfitted with an SSL Duality SE 24 input analogue console, Logic Pro Studio, Avid Digidesign HD3, Augspurger Custom main monitors and a wide range of outboard gear. Control room B features an SSL Matrix console, Adams S5X-V speakers and a 60 square-foot sound booth. "We are developing a programme to maximise the potential of our new studio," explained CEO/Founder Jeff Robinson. "While our artists will have first dibs on studio time for their projects, we plan to make this outstanding studio available to outside artists, producers, and engineers, as well as for film/TV production. In the years to come, we hope to see a return on our investment, not just in monetary terms, but also as a source for meaningful, lasting music. These studios are finely tuned instruments."

www.wsdg.com

**Game** Audio Factory has installed two Argosy workstations at its new headquarters in south western France. The studios house two audio control rooms, a sound stage for recording effects, foley, voice and music, and can also provide location recording services. "We bought the G Series Argosy Workstation because they were the first desks set up for the Euphonix Artist Series controllers, which we use in our rooms," said CEO Vincent Percevault.
**www.argosyconsole.com**
**www.gameaudiofactory.com**

**Lyric** soprano Jane Zoo has recently finished recording her second album at the Manoir La Chaussée in Port de Roche, Brittany. The French country manor housed the singer, her musicians, and recording team headed up by Innovason's Hervé de Caro, who also co-produced the album. The album was recorded on an Eclipse console with Sennheiser digital microphones.
**www.innovason.com**

**A** recent company restructure by the Polish manufacturer of Preceptor and Compactor (analogue Zener compressor/limiters) has resulted in the emergence of Gem Audio Labs, a new company and brand name that replaces the former Generic Audio. "We are now planning for the future and want to make sure we can deliver a consistent standard of excellence to customers in all aspects of our work," said Gem Audio Labs Bartosz Radziszewski.
**www.gemaudiolabs.com**

**Country** music singer/songwriter Jim Lauderdale has just released his latest CD, Carolina Moonrise, recorded with a variety of Mojave Audio microphones. "I used the Mojave mics in a variety of ways," explained Producer/Engineer/Mixer Randy Kohrs. "I found the MA-100 a great choice as the top mic on the upright bass and as the bottom mic on the mandolin..." For vocal work, Kohrs used the MA-201fet condenser microphone and the MA-300 multi-pattern vacuum tube condenser microphone.
**www.mojaveaudio.com**

Renowned recording engineer and lecturer Akira Fukada unveiled his Fukada Tree seven microphone arrangement – a new technique for recording orchestral music in surround sound – in 1997. He has recently used DPA microphones to record a number of prestigious projects, including recording Shostakovich's Symphony No.5 with the Saito Kinen Orchestra, directed by Seiji Ozawa."
**www.dpamicrophones.com**

**Maroon** 5 has recently recorded its latest album, *Overexposed*, at Conway Recording Studios in Los Angeles, using Royer Labs microphones. "Over the years, I've become a big fan of Royer ribbons," said Noah 'Mailbox' Passovoy, who produced five tracks and engineered all the tracks on the recording. "When I first started using Royer microphones, I learned I was better able to fine-tune the sound..."
**www.royerlabs.com**

## Castle Rocking Out

Castle Rock Studios, a new facility featuring recording, rehearsal, and live presentation spaces, has opened in Cheshire, North West England. The studio has installed a Solid State Logic AWS hybrid console/controller, which handles everything from capture, mixing, and mastering for music recordings, to live performances within the Castle Rock building. "The Castle Rock Studio is a recording studio that comprises a surround capable control room, two adjacent window-connected live rooms, a vocal booth, and editing room," explained Managing Director John Stretford. "The AWS gives us excellent control of our three DAW systems. We certainly wanted a desk that could address both new media production situations and straight-on recording. In this day of samples and loops, the AWS gives us an advantage when dealing with our DAW software."
**www.solidstatelogic.com**

## Sydney Studio Expands

Studios 301 Sydney has formally announced six new music production studios within the facility, opening this month – making Studios 301 one of the largest studio complexes in the world. In the last few years, they have hosted artists such as Kanye West, Lana Del Rey, Lady Gaga, U2, The Jezabels, Matt Corby, The Herd, The Voice, and the Australian Chamber Orchestra, among others. Each new studio is self-contained, and is comprised of a large control booth and an adjacent recording booth. The acoustics of the control room have been treated to give a flat and natural response. Immediately in front of the control room, the booth has been deadened for un-coloured recording of vocals and instruments, which patches through to the control room and neighbouring booths.
**www.studios301.com**

## Beat A Retreat

Miloco Studios has partnered with Chris Craker to unveil his new residential recording retreat, Karma Sound Studios, Thailand. Set in the heart of Chonburi province, an hour and a half south of Bangkok, Karma Sound comprises two studios; an SSL recording and mixing facility and a smaller writing/production suite. Studio 1 has 1,000 square metres of recording space split between a day-lit live room, three isolation areas, and a vocal booth. The high ceiling, combination of padded, wooden and stone walls, and the ability to split the main live room into two using glass sliding doors, provides a large variety of acoustic options. The control room is based around an SSL 4056 E/G+ console. It features Pro Tools HD3, Genelec monitoring and a wide choice of outboard. The smaller writing, overdubbing and mixing/mastering studio has a live space suited to recording vocals and guitars.
**www.miloco.co.uk**

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# DiGiCo Does Danish Superliga

Danish event and television production specialist dbLux has taken delivery of a new OB truck, complete with a DiGiCo SD10B digital console. The company was recently awarded a contract to relay 300 Superliga – Denmark's top football league – matches over the next three years. The brand new 10-camera HD truck was built to fulfill this contract, along with other OB and music production tasks. The truck was built by Avit System A/S, who also installed all the technical equipment and infrastructure. The SD10B was supplied by DiGiCo's Danish distributor Soundware A/S. The console is fed by the vehicle's Grass Valley audio router, via two MADI streams totalling 112 channels for EVS and Avid production systems, plus intercoms. Inputs also come from the three D-Racks on Optocore connections for field of play mics and on-site studio sources. The D-Racks also feed the headsets and in-ear systems for reporters and studio anchors.

"The SD10B produces two main broadcast stems: the main 5.1 mix for Danish TV stations, and a 'world feed', which is the 5.1 mix without the Danish commentary," explained Anders Fiedel from Avit Systems. "The two 5.1 stems are sent via MADI to the truck's audio router, then to TC System 6000 mastering with the new ALC6 'Olympic' algorithm for R128 loudness processing." The processed 5.1 stems, plus two R128 loudness-corrected stereo mixes, are then fed back to the SD10B's monitor section, where the mixing engineer a stem to monitor. The two stereo stems are also sent to the SD10B's matrix, where they are summed down to two further mono stems for intercom.

www.digico.org

The UK Screen Association has held a loudness conference in London, sponsored by RTW and Junger Audio. The event informed UK Screen Association members, heads of audio, chief engineers, dubbing mixers, and other audio professionals of the Digital Production Partnership's (DPP) objectives in the implementation of loudness specification EBU R128. A debate was held on the technical and creative implications of the ruling..
**ukscreenassociation.co.uk**

**Paris-based** free-to-air digital channels Direct 8 and Direct Star have purchased four D*AP LM4 four-channel processors from Junger Audio's French distributor 44.1. Each channel now has a pair of processors to control and regulate broadcast audio loudness. France's Conseil Superieur de l'Audiovisuel (CSA) has recently introduced new legislation to control loudness in broadcasting, and the channels are using the processors to remain within the new boundaries.
**www.junger-audio.com**

**Polish** integration firm 4Vision has installed a 52-fader Studer Vista 9 console as part of a production system for ATM System's new HD2 OB truck. ATM System is one of the largest production companies in Poland and has already used the truck for events throughout Europe, including the Polish football championships. The console was sold through ESS Audio, Studer's Polish distributor.
**www.harman.com**

**Hitradio** FM PLUS and Hitradio Dragon, based in Pilsen in the Czech Republic, has just equipped its studios with Axia iQ networked audio consoles and QOR.32 integrated console engines. The Axia equipment and installation and integration services were provided by Media Marketing Services, the Axia representatives in Prague. The sale included Axia iQ AoIP mixing consoles with expansion frames, networked DSP mixing engines, and a variety of Axia Audio Nodes.
**www.AxiaAudio.com**

Cologne Broadcast Center (CBC), a television production and broadcasting company with offices in Cologne, Munich, and Berlin, has recently purchased 100 RTW TouchMonitor TM3 units. CBC purchased the TM3s to help meet the German government's upcoming loudness requirements for TV shows. Schmitronic (Cologne), supplied the units."
**www.rtw.de**

**Audinate** highlighted the use of Dante in the broadcast industry at this year's IBC show, with the announcement that 20 of its current OEM manufacturer partners are involved in the broadcast market sector. Companies that have announced the adoption of Dante media networking include Yamaha, Salzbrenner Stagetec Mediagroup, NTP Technology, Sierra Automated System, DELEC, Bosch, Sound Devices, Digital Audio Denmark, Soundcraft, DHD-Audio, Jato, and RTS/Telex.

## Lawo Reaches For Sky Sports

Sky Germany has set up the first 24 hour sports news station in Germany – Sky Sports News HD. The company required a live studio with a video and audio control room, which has been built with a second generation Lawo mc266 as the central audio mixing console. The console is equipped with a 24+8 frame, 32 faders, and three DSP boards supplying the 288 DSP channels. After a software update, the number of DSP channels was increased to 288. The console is integrated into an ENPS Mosart control system, which supports the Lawo remote protocol. "Thus, not only static matrix states, but also dynamic parameters, like fader movements, can be remote controlled." commented Holger Lentge, the Audio Engineer from the project's system integrator Wellen+Nothen. "
**www.lawo.ca**

## Sony Sorts SuperSport

South African pay-TV provider SuperSport has just added a new vehicle, OB4HD, to its HD OB trucks. The truck was equipped by Sony Professional Solutions Europe, and will be used for live sports coverage. It has been fitted with a virtual studio manager, and an intercom system from RTS. The system consists of the Advanced Digital Audio Matrix (ADAM) linked to a variety of keypanels, a wireless belt-pack system, a two-wire intercom system, and 69 MH Series headsets (with active noise reduction). "We had already successfully shipped to South Africa a number of OB trucks that have served there with distinction," said Gerhard Strydom, Manager Broadcast Sales and Marketing with Sony South Africa. Sony is working on two more OB vehicles for SuperSport.
**www.rtsintercomes.com**

## New Connections For SSL

Solid State Logic has collaborated with Riedel to provide compatibility with Riedel RockNet and MediorNet systems. SSL C100 HDS and C10 HD digital consoles can now connect to the Riedel RockNet low latency audio network, and the MediorNet fibre-optic transport, routing and conversion network. Via Riedel's RN334.MD MADI interface, SSL consoles can remotely control mic gain, phantom power and pad settings for Riedel RN series audio interfaces connected anywhere on a RockNet network. In Addition, SSL's own MORSE Stagebox and Alpha-Link I/O units can also be connected via MADI to Riedel's MediorNet networks with full remote capability maintained for SSL consoles. The new implementation ensures that Riedel and SSL remote I/O continue to behave as expected within SSL's redundancy topology.
**www.solidstatelogic.com**
**www.riedel.net**

# Form follows function: the new mc²56.

Welcome to the next generation of mc²56: Maximum functionality, maximum efficiency and unparalleled ease of use. Thanks to its new design, the console guarantees an absolutely intuitive workflow. Additional features like button glow, instant local access and the new overbridge ensure fast and safe operation. In terms of future-proofing, once again the mc²56 is packed with innovative features such as Loudness Metering, new surround tools and ground-breaking RAVENNA technology. The one thing that hasn't changed is the very essence of the mc²56: in other words, cutting-edge technology in an extremely compact footprint. The mc²56. Performance, pure and simple. www.lawo.de

The 2012 Creative Arts Emmy Awards took place on September 15, 2012. Tom Paul took the Emmy for Outstanding Sound Mixing for Non-Fiction Programming for Paul Simon's *Graceland Journey: Under African Skies;* Outstanding Sound Mixing for a Comedy or Drama Series (One Hour) went to *Game of Thrones,* which also won Outstanding Sound Editing for a Series. The Outstanding Sound Mixing for a Miniseries or Movie award went to *Hatfields and McCoys,* while the *Modern Family* team won Outstanding Sound Mixing for a Comedy or Drama Series (Half-Hour) and Animation. Outstanding Sound Mixing for a Variety Series or Special went to the 84th Annual Academy Awards. The Emmy for Outstanding Sound Editing for a Miniseries, Movie or A Special went to *Hemingway & Gellhorn,* and the *Frozen Planet* sound editors won the award for Outstanding Sound Editing for Non-Fiction Programming.

Twentieth Century Fox has announced that two of its autumn releases – Chasing Mavericks and Taken 2 – will be mixed and released in Dolby Atmos. The studio is also outfitting its Zanuck Theatre post production facility with Dolby Atmos capabilities. "Dolby Atmos transports audiences into the on-screen adventure with the most lifelike sensory experience ever offered in cinema," said Doug Darrow, Senior Vice President, Cinema, Dolby Laboratories. "Dolby Atmos will immerse moviegoers in the sounds of Istanbul's bustling streets in the action-packed Taken 2 and atop the big waves of Chasing Mavericks."
www.dolby.com

# Empire Expands With CSS

CSS Studios, whose facilities comprise the largest independent post production sound company in North America, has been acquired by Empire Investment Holdings. CSS is made up of post production studios Todd-AO, Soundelux, Sound One, Modern Music, POP Sound, Soundelux Design Music Group, and The Hollywood Edge. The CSS collection of businesses provides creative post production sound services to major film studios, independent producers, broadcast networks, cable channels, advertising agencies, and interactive producers. The businesses operate out of nine facilities across Los Angeles and New York City.

"The Empire team understands and respects the importance of these companies to the creative community," said David F. Alfonso, Empire's Chairman and Chief Executive Officer. "We intend to protect and enhance the company's unique value proposition and creative leadership as the preferred destination for some of the most important filmmakers of our time. Our team is energised to begin working with the management team and the creative talent within each business. We will build upon the successes that the team of creative sound editorial and mixing talent has created over the years, while promoting an environment that will continue to set the standard and produce award winning results." Empire is a private investment firm focused on the acquisition and strategic management of business units from public and private corporations.

Andrew Warren, Chief Financial Officer at previous owner Discovery Communications, commented: "Empire demonstrated a clear passion for the business and emerged as the right owner." Robert C. Rosenthal, President at CSS Studios, said: "We look forward to partnering with the team at Empire, as we focus on continuing to build on the body of award winning work created by the best talent in the industry."

A report in *Variety* magazine claims that New York post-production facility Sound One, now owned by Empire, is "investigating strategic alternatives" for its New York operations, including temporarily laying off staff.

**www.css-studios.com**
**www.empireih.com**

## Ray Dolby To Receive HPA Award

The Hollywood Post Alliance has announced that Ray Dolby will receive the Charles S. Schwartz Award at the 2012 HPA Awards ceremony on November 1 in Los Angeles. Ray's son David Dolby will accept the award on his behalf. "My father is deeply honoured to have been chosen for this recognition," said David Dolby, "Ray has always been committed to achieving transparency between the work of creative professionals and audiences around the world."

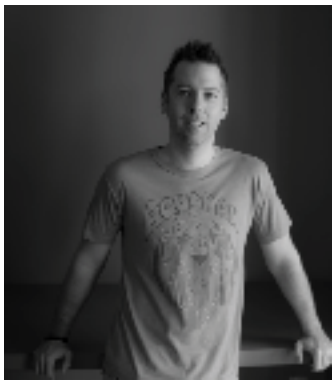
Leon Silverman, President of the HPA, said: "The HPA is honoured to recognise Ray Dolby, whose lifetime of creative innovation has had a profound impact on our industry and society. Ray has played and continues to play a fundamental role in countless hours of entertainment enjoyed by audiences around the globe."

**www.hpaonline.com**

The 2012 Conch Awards took place at London's Mayfair Hotel on September 19. Dennis Weinreich received the Outstanding Contribution award. Others going home with statues included LipSync Post, who were named Film Mix Facility of the Year, and Envy, who won TV Mix Facility of the Year. Wave was named Commercial/Promo Facility of the Year. The BBC's Later With Jools Holland won the Audio on TV Entertainment of the Year award, while racing driver documentary Senna took the Audio on TV/Film Documentary of the Year prize.

**www.conchawards.co.uk**

## Scottie Gets Lucky



Academy Award-winning Sound Designer and Mixer Scottie Richardson has joined Dallas' Lucky Post. His work has included sound design and audio post for a range of commercials and television.

"From the moment I walked through the doors, I could imagine myself at home at Lucky Post," said Richardson. "Having worked in five Russ Berger audio suites previously, I was very excited to learn that he designed every room at Lucky Post. Amazing design notwithstanding, it is everyone's shared enthusiasm and drive to do the best possible work that truly makes Lucky Post special." Jessica Berry, EP at Lucky Post, said: "Scottie is one of the best audio engineers and sound designers in the country and a fantastic addition to the Lucky Post team."

**www.lucky-post.com**

HHB Communications has installed new Pro Tools 10 software, HDX hardware, and a 24-fader D-Command console at UK facility Up 4 Loud Productions. Founded in 2004 by Alan Snelling, Up 4 Loud Productions specialises in pre-mixing, foley, and final mixing for TV drama, cartoons, and film. Snelling took the decision to upgrade after speaking to colleagues at Soho's The Farm Group about their multi-studio upgrade. "I contacted HHB without much knowledge of what I needed for my Pro Tools HDX and v10 upgrade, and they were very helpful by developing a straight course of action," commented Snelling.

**www.hhb.co.uk**
**www.up4loud.com**

New York-based audio post-production company Heard City has hired Mixer Eric Warzecha, who has worked on campaigns for DirecTV, Comcast, AT&T, Chobani, Garnier, and many others. He has multiple Cannes and Golden Pencil awards. Prior to joining Heard City, he spent 13 years at Sound Lounge, where he worked his way up from intern to mixer. "We couldn't be happier to have Eric joining the team," said Heard City EP Gloria Pitagorsky. "He brings such an incredible energy and thoughtful attention to detail to every project he works on."

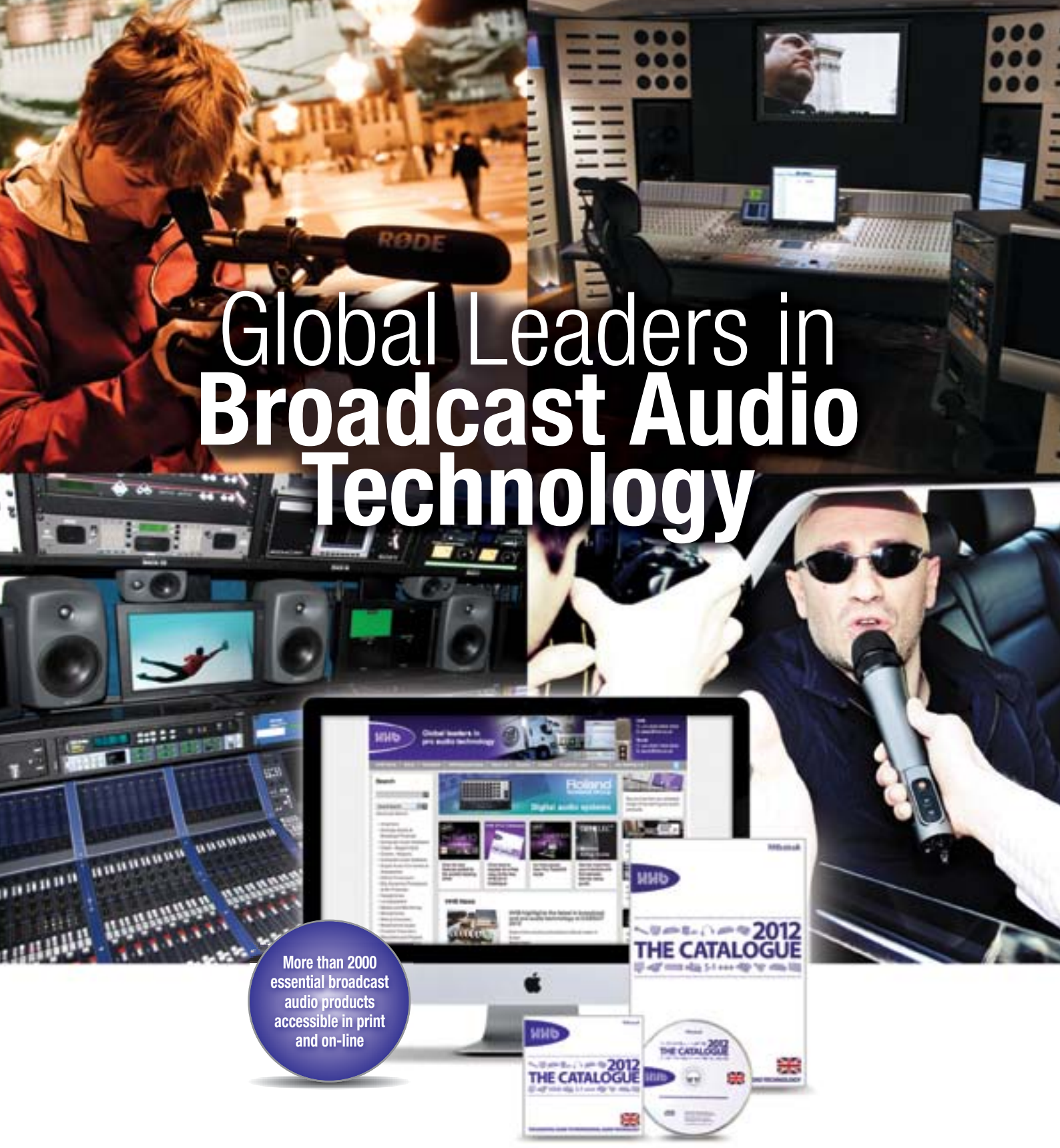
**heardcity.com**

Soularity Sound, a post production audio facility in Austin, Texas, has recently upgraded to 5.1 surround sound production capability with JBL LSR4300 Series studio monitors. Korey Pereira, Owner and Lead Engineer at the studio, said: "While there were several other solutions on the market, I decided the best setup for me was five JBL LSR4326P monitors and an LSR4312SP subwoofer. To monitor the dynamic range of a dramatic film soundtrack, I need to have enough headroom from my monitors so that I don't have to worry about the speakers distorting."

**www.soularitysound.com**
**www.jblpro.com**

Emotion Systems has announced the licensing of four eFF Audio audio file analysis applications at the LAB, the in-house post-production facility for Abbott Mead Vickers BBDO, the UK's largest advertising agency. The LAB has installed eFF Audio in its MCR to ensure that any audio problems in file-based media are identified and corrected prior to playout.

**www.amvlab.com**
**www.emotion-systems.com**

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# On Stage With Madonna

Madonna's epic MDNA tour, which takes in Asia, Europe, North and South America is underway, with an audio system that includes two DiGiCo SD7s at Front of House, and another on monitors. The show, which features 11 musicians and 22 dancers, with multiple costume changes, also has a large Sennheiser microphone and RF system. Madonna has six Sennheiser SKM 5200 mics for each show. "The 5200s get a real battering," said Monitor Engineer Matt Napier. "The microphones get hurled around and are frequently being thrown to and from dancers and onto the floor. Given that the 5200 is not a microphone designed for such abuse, I think they are standing up remarkably well." There are also six further 5200s with MD 5005 capsules for backing and guest vocal microphones. Together with Madonna's vocal mics, these use 12 MkII 3732 wireless receivers. In-ear monitoring is provided by 14 2000 series wireless systems, with 14 more for guitar systems. In addition, a percussion tree uses SKP 2000 plug in transmitters, taking the overall wireless channel count to around 50.

Matt Napier worked on Madonna's previous Sticky & Sweet tour, along with Monitor Engineer Sean Speuhler. They used a DiGiCo D5T on the previous tour. "There are two of us because Sean exclusively mixes Madonna's vocals and her vocal effects, all of which she insists be done live," explained Napier. "We effectively share the console – I use the SD7's control surface and Sean uses an EX-007 expander unit to mix on." In total the SD7 has 114 inputs coming in from the stage rack, including effects. Napier is using 100 channels, with Speuhler using over 30 more. "I think the SD7 is the only desk that can handle the amount of inputs and outputs we've got," said Napier.

www.digico.org
www.sennheiser.co.uk

SUBSCRIBER PRIZE DRAW

Congratulations to Max Thürmer from Berlin, Germany, who is this month's lucky winner of the AM subscriber's draw. Each month throughout 2012, one randomly selected subscriber will win an sE 4400a microphone. To be entered into the draw, you must have a current digital or print subscription. To get one, go online to the address below. Good luck!

**www.audiomedia.com/subscribe.html**

A new Dynacord and Electro-Voice showroom has opened in Peterborough. The new premises were officially opened by George Simons, Mayor of Peterborough, and Andrew Castle, Vice President Finance and Administration Bosch UK. "Our sales team have long anticipated the opening of our new building," said Sean Maxwell, Sales Director UK. "It offers an ideal acoustic environment to hear products as they should be heard." Managing Director of EVI, Robert Hesse, commented: "From now on our customers will have the possibility to familiarise themselves with our products in action."

**www.dynacord.com**
**www.electrovoice.com**

Harpa Concert Hall and Conference Centre in Reykjavik, Iceland, has installed a Clear-Com Eclipse digital matrix system and FreeSpeak wireless intercom. The intercom systems enable the production team to communicate across multiple spaces within the brand new Harpa facility, which includes one main concert hall and three additional multi-purpose rooms, which are used for musical events, international conferences, conventions, and meetings. A 48-port Eclipse-Median digital matrix was integrated with 22 FreeSpeak digital wireless beltpacks, allowing staff to communicate and collaborate across the ticket sales area, backstage and throughout the other production spaces.

**www.clearcom.com**

Electro-Voice has recently installed Lebanon's largest fixed audio installation, at a new luxury resort, VEER, in Beirut. The invitation to tender stipulated that the audio system be suitable for all eventualities, from quiet background music to DJ sets and live concerts, with audio inputs and outputs distributed throughout the entire complex. The main system comprises two line arrays with twelve XLD281s, while EV F1152s serve as back fills for the VIP pool and restaurant, with 16 Xsubs. Monitors for DJs and bands are four TX1152FM and two TX1122FMs, as well as three Q99 power amplifiers. The system is driven by 16 CP3000S and four CP4000S amplifiers, with a NetMax N8000 digital processor.

**www.electrovoice.com**

## Intercom At The Bolshoi

The Bolshoi Theatre in Moscow has recently completed a six-year programme of renovation. In addition to the renovation and construction work, the theatre management decided to invest in state-of-the-art communications equipment, which has led to the installation of the largest RTS professional intercom system for stage management worldwide, with six interconnected individual stage manager systems. Hamburg-based specialist Amptown System Company took charge of the installation. "The new intercom system had, above all, to guarantee one thing," explained Stefan Thomsen, Amptown System Company's specialist in communications and stage management systems. "That all those involved in a production would be able to exchange information with each other at any time without any problem." To ensure that the system, despite the complexity of its implementation, was simple to use, and the ideal solution to the Bolshoi's needs, two further teams of specialists – the Russian company TDM and ProVideo of Berlin – were called in to work with Amptown and the theatre's own technicians. Together they decided to fit the RTS intercom matrix combined with an RTS two-wire party-line intercom system. The RTS intercom system consists of two Advanced Digital Audio Matrix (ADAM) frames with at total of 448 ports, the frames being linked by four redundant DBX cards. Communication between the stage managers and theatre staff behind, beneath, and above the stage is provided by 200 key panels from the KP-32, KP-12, and MKP-4 series as well as 120 party-line belt-packs and headsets. Numerous DSI-2008 two-wire/four-wire interfaces are used to link the four-wire ADAM and two-wire party-line system to one another. The installation is completed by 20 TIF-4000 multi-line telephone interfaces that connect the intercom system to the theatre's telephone switchboard to integrate standard telephone lines into the overall matrix.

**www.rtsintercoms.com**

## So Silver Anniversary

Peter Gabriel is currently touring North American cities to celebrate the 25th anniversary of his multi-platinum album *So*. Firehouse Productions has deployed an L-Acoustics system, featuring left and right hangs of 14 K1 plus six KARA below for down-fill, as well as adjacent hangs of eight K1-SB subs. Out-fills are comprised of an additional 10 K1 and six KARA flown per side, paired with eight ARCS and six dV-DOSC below for front and lip-fill. The tour is also carrying 20 SB28 subs set up in an LCR configuration – six per side stacked under the mains with two spaced blocks of four in the centre, all in cardioid mode. The entire system is powered and processed by 48 LA8 amplified controllers housed in eight LA-RAK per side.

**www.l-acoustics.com**

## Eclipse Into The Futuroscope

French multimedia theme park, Futuroscope, near Poitiers, has recently celebrated its 25th anniversary with an open air performance of Etienne Perruchon's epic *Dogora*. It featured 1,000 choristers from 40 different choirs, four soloists, and a 40-piece orchestra. Local rental and company Agora Audio supplied an Innovason Eclipse digital console at FoH, an Innovason Sy80 for monitors, the main PA, and all the mics, which included 16 KM 184 D Neumann digital microphones. "The entire show was set up and performed without a hitch, which was quite an achievement given the number of people involved and the extremely limited time frame," said Agora's David Rocher, who mixed the show at FOH. "...The event was a great success."

**www.innovason.com**

## Tracking Down Faust

The St Galler Festspiele in Switzerland culminated recently in an open-air performance of Berlioz's opera La Damnation de Faust. Swiss AV consultancy company Tingo were responsible for the main stage sound design and used a TTA Stagetracker FX realtime performer tracking system. The stage was unusual in that it was asymmetric, with different levels and gradients, and extremely large – and completely open to the elements. "This was why it was so interesting to have a performer tracking system in place," said Sound Engineer Dani Niedermann. "It added an element to the sound that is completely unexpected in an open air environment..."

**www.tta-sound.com**

## Tannoy Faces Waterloo

London's Waterloo Station, one of Britain's busiest railway stations with around 350,000 passengers per day, has recently completed an overhaul of its audio system, which included installation of Tannoy's new VSL Series. The upgrade was handled by Glasgow-based TG Baker. "The VLS was a perfect solution for the space, as it fitted in with the overall architecture and allowed us to use the existing structure to hang the loudspeakers," said Brian Andrew, Head of TG Baker's Railway Division. "It also provided the audio coverage that was essential for a busy transport hub like Waterloo. Both the styling and audio quality of VLS Series fits very well with the recently built prestigious retail balcony and the high end stores that it contains."

**www.tannoy.com**

Bruce Springsteen's Wrecking Ball tour is travelling across America and Europe with 18 musicians on stage. In total there are 68 channels of wireless microphones and in-ear monitoring systems in use, and nearly 100 inputs. Early in the tour, the microphones were changed to Shure Axient because of difficulties finding space for RF and interference issues. "Axient is a great example of how Shure continues to develop better products that make a real difference in the quality I strive for in my live mixes," said FOH Engineer John Cooper."

**www.shure.com**

Tomorrowland Festival recently attracted over 80,000 dance music fans to Belgium. South Holland sound production company Noiz Boyz rented an L-Acoustics line array and sub stacks system, using more than 96 K1 boxes, 102 SB28 and 64 SB218 subwoofers, 56 V-DOSC and 72 KARA boxes, powered by LA8 amplifiers. Lake LM26 digital audio system processors provided a two-input/six-output analogue configuration. "These devices are fast, easy to use and have a really good sound," said Bas Rijsdijk, Co-owner of Noiz Boyz. "On top of that, Lake is a highly respected brand with guest engineers."

**www.lakeprocessing.com**

The Hålogaland Theatre in Tromsø, Norway, has replaced its old stock of DPA 4060 omnidirectional miniature microphones with 40 directional d:fine headset microphones and 40 d:fine omni microphone booms, which are being used with a new 32 channel Shure Axient wireless system. The theatre is currently using the microphones on a production of Les Misérables. "The microphones stay in place even with theatre productions like Les Misérables that include dancing and running about the stage while singing," said Jim Oddvar Hansen, Head of Sound at the theatre.

**www.dpamicrophones.com**

**The** Sheraton Fairplex Conference Centre, an addition to the Fairplex Exposition Complex in Pomona, California, has opened with a QSC

Q-Sys Integrated Platform. The Fairplex site has been home to the LA County Fair since 1922, and also encompasses a horse racing track and the Auto Club Raceway drag strip. The new system comprises a Core 4000 with 256x256 I/O capability plus 11 I/O frames outfitted with CIML4-HP high performance mic/line I/O cards. The system also includes 30 QSC Audio PowerLight 3 Series PL340 and six PL325 amplifiers powering the installed speakers.

**www.qsc.com**

The recent annual Parkteatern Festival in Stockholm, which offers four weeks of entertainment in an open air amphitheatre staged by Stockholm City Theatre, took place with a Martin Audio MLA Compact system. The programme varied from soft ballads to hip hop, to modern Danish dance and opera. DM Audio, who serviced the event, beefed up the LF end, running six DSX subs per side, double stacked in a cardioid pattern, to stave off complaints from neighbours about noise escaping at the rear of the stage.

**www.martin-audio.com**


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# Reviving Radiophonic

There's a part of the British mentality that has to quibble with good news. A good recent example of this was reaction to the news that the Radiophonic Workshop was being revived in a joint project by the Arts Council and the BBC. While the first response from many broadcast-electronica-geeky minded types was surprised enthusiasm, that was followed almost immediately by, "Why was it closed in the first place?"

From its creation in 1958 the BBC Radiophonic Workshop produced work – both music and sounds – that enhanced the TV and radio shows it was made for. The most obvious example is *Dr Who* but before that there was *The Goon Show*, *Quatermass,* and the *Pit* – and later *The Stone Tape* and *The Changes*, as well as signature tunes and idents for BBC news programmes and local radio stations.

The BBC saw the Workshop as a practical resource for programme makers rather than a centre for experimentation, much to the frustration of co-founder Daphne Oram, who left to set up her own studio after a year.

**"What had once taken a roomful of kit and many hours, sometimes days, to achieve can now be done on a personal computer in a matter of minutes."**

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Despite this workaday background the composers and engineers of the RPW used the sometimes rudimentary equipment available to them – oscillators, noise generators, and reel-to-reel tape machines – to make recordings that have influenced and inspired subsequent generations of musicians, technicians, and equipment designers.

Ironically this legacy was only beginning to be recognised in the mid 1990s, the time the Workshop's fate was sealed. It started to wind down in 1995 and its rooms at the BBC's Maida Vale studios in west London were shut for good three years later. That was a time when the BBC was run by Director-General John Birt, who became infamous for cutting back what he saw as unprofitable departments. While the RPW certainly fell victim to Birt's rationalisation it was also beginning to be left behind as far as new technology and innovation were concerned.

Experimental composer Matthew Herbert is Creative Director of the New Radiophonic Workshop, and feels the democratisation of technology through digital recording, powerful processors, software, and synthesizers ended up making the original RPW redundant. What had once taken a roomful of kit and many hours, sometimes days, to achieve can now be done on a personal computer in a matter of minutes.

The New Radiophonic Workshop came about after The Arts Council approached Herbert to create an audio component for The Space, the digital arts service set up by the Council and the BBC. "They asked me to think about what thespace.org sounds like," he says. "I thought this would be the perfect project to re-launch the Radiophonic Workshop and they asked if I wanted to run it."

Herbert has formed a team of composers, sound designers, and technologists to be the core of the New RPW. This includes James Mather, who worked on both the *Harry Potter* and *Narnia* series of films, among others; composer and instrument maker Max de Wardener and Tony Churnside, a member of the BBC's R&D department.

The New Workshop's first commission was *The Sound of The Space*, a continuous loop of sound and spoken word comprising audio clips from the last 25 projects uploaded to thespace.org. Since then Herbert has marked the BBC World Service leaving Bush House with a piece features sounds recorded in the now vacated studios and offices.

Herbert was born in 1972 and says his first knowledge of what the RPW did was Douglas Adams' *The Hitch-Hiker's Guide to the Galaxy*. He agrees there is a mythology surrounding the Workshop, which he finds "quite scary", but wants to move the concept on rather than be too tied to the past.

While saying he is more interested in the experimental side of things, Herbert does not necessarily feel he is returning to Daphne Oram's original vision for the RPW. "We've got people involved who, like James Mather and myself, all have day jobs and this won't be the only thing they're doing," he explains. "So there's going to be collaboration between us. It also needs to be a bit more ambitious and not tied exclusively to the BBC."

Herbert says he would like the New RPW to produce material for TV and radio but adds he is also looking at other projects, including sound art and creating audio designs for public places.

Because the New RPW is a virtual institution and does not have full-time employees, Herbert comments that it welcomes help from anyone interested in electronic music or sound design, which ties in with the idea of technology democratising the creative process.

Herbert views the original RPW as a group that was called on largely to create sounds and music for stories about the future and worlds of the imagination, but today, he says, we are in the technological future, so the aim is to push boundaries further. There's still a nod to the RPW's past – The Radiophonic Workshop in Public event held this month was planned to include some former members – but the sense is that the New Workshop is a fresh start.

Many surviving members of the 'old' RPW are still active in music and performed live together at the Roundhouse in May 2009. Composer Mark Ayres curates the RPW archive, and says there was no consultation from the new project but those of the original 'group' will carry on under the name the Radiophonic Workshop, with the backing of BBC Music, while the New Radiophonic Workshop will follow its own path.

Any failure to communicate is regrettable, but it's good to have both in existence, even if they are in parallel universes, which is all very science fiction and fitting. The hope is they can continue to stretch the boundaries of creativity and technology to give future generations something as strange and wonderful as Delia Derbyshire arrangement of Ron Grainer's theme for *Dr Who*.

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STUDER by HARMAN

# Native *Speakers*

**A sparsely-populated** North Atlantic island, Iceland is famous for its hot springs, geysers, and active volcanoes. And despite the well-documented reports of its various economic crises in recent years, it also supports a vibrant music industry, boasting a healthy live sound sector and a number of world class recording studios.

Since 1992 Exton has been the leading company in Iceland in the field of professional lighting and audio equipment. CEO Ingólfur Magnússon reports, "In the last few years we have also started to offer design and integration services for out clients by adding new product lines. This includes audiovisual equipment from Extron and AMX. Our integration service provides design and installation service for any kind of audio, video or lighting project including, studios, malls, theatre, schools, etc. Key brands represented are Meyer Sound, Martin Professional, Midas, ETC, MA, Nexo, Arena Seating, and many more.

"The company has a very wide customer base, ranging from small clubs to the largest theatres, TV and radio stations, promoters and conference organisers, home and professional recording studios, government and municipal authorities.

"Exton has an excellent relationship with large European rental houses when sub hires are required. The companies include Seelite A/S, Sound Hire Ltd and Arena Seating, Mojo Barriers and many more.

"Being the local representative for a number of leading manufacturers gives Exton access to their full marketing and technical support."

As the company gears up for Iceland Airwaves and a major series of international conferences, Magnússon is happy to declare, "Right now, business is very good across all sectors."

**"Right now, business is very good across all sectors."**

BUSINESS

## Harpa Concert Hall

Harpa Concert Hall and Conference Centre in Reykjavik is a keystone element in Iceland's bid to become a first-tier destination for both business meetings and arts events. Harpa expects to attract increased bookings with its striking architecture and cutting-edge AV systems – notably incorporating more than 160 Meyer Sound self-powered loudspeakers.

Harpa's crown jewel is the Eldborg hall, a resplendent new home for the Iceland Symphony Orchestra and the Icelandic Opera with a capacity of up to 1,800 seats. Designed by Artec Consultants of New York, the hall features an elaborate system of adaptable physical acoustics, which adjusts hall reverberation using moveable soft goods, overhead canopies, and doors to hidden reverberation chambers.

For amplified concerts, the hall relies on an equally adaptable Meyer Sound reinforcement system. Based on an initial design from Artec's principal consultant, Geoff Zink, the final system configuration was plotted by Kari Eythorsson of Exton, the Reykjavik-based integrator contracted for all AV, stage lighting, and communication systems.

"The Mica arrays give us more consistent coverage and power, and it's rider-friendly for top-rank touring acts," says Ingvar Jónsson, Technical Manager at Harpa. "The performance is outstanding, particularly regarding clarity and high-frequency detail. You could argue that what we have is too powerful for the space, but that just means we will never run out of headroom."

One of the first concerts to use the system was a sold-out evening with Iceland's own electronic-music superstar, Björk.

The complex also boasts a major installation of Midas digital mixing consoles, with four networked PRO9 desks residing onsite.

Allen & Heath iLive systems comprising an iDR-16 MixRack and iLive-R72 Control Surface have been installed in the Norourljos recital hall and Kaldalon hall, whilst a combined FOH and monitor system, comprising iDR-16 MixRacks and an iLive-R72 and iLive-T80 surfaces, has been selected for the Silfurberg conference hall.

The Harpa Concert Hall and Conference Centre was designed by Henning Larsen Architects of Denmark in cooperation with artist Ólafur Elíasson. It is operated under the auspices of the Icelandic government and the City of Reykjavik.

http://en.harpa.is/

FESTIVAL

# Iceland Airwaves

Iceland Airwaves is an annual music festival held in Reykjavík. This year's dates are October 31-November 4, 2012.

The first show was held in 1999 as a one-off event in an airplane hangar at Reykjavík Airport. Subsequently, it has become a premier showcases for new music – both national and international.

Artists who have performed at the many participating venues in and around Reykjavik include The Shins, The Rapture, TV On The Radio, Florence and the Machine, Klaxons, Hot Chip, Flaming Lips, Wolf Parade, Bloc Party, and Fatboy Slim, who have made the short hop from Europe or North America to share the stages with the likes of Björk, Sigur Rós, FM Belfast, GusGus, múm, Of Monsters and Men, and Seabear.

Over to the Icelandic Airwaves official website: "There's more to Airwaves than music. Reykjavík is quite possibly the perfect festival city – small enough to be welcoming, sophisticated enough to offer cultural, historical, and nightlife diversions to rival cities ten times its size. Maybe twenty. Who knows? And it's surrounded by some of the most unique and astonishing natural beauty you're ever likely to see. Roll out of bed, hose the party remains out of your hair, and hop on a bus. Before you can remember what you did the night before, you're looking at geysers, waterfalls, lava fields – all the best that a volcanic island has to offer, including the world-famous Blue Lagoon, favourite soaking spot of the international hung-over glitterati. Come and join the party."

Closing this year's festival will be Sigur Rós, making their first appearance at the event for eleven years. In their first hometown show for four years, the band will close the festival with a performance at the new Laugardalshöll Arena on Sunday, November 4. Coming on the back of a globetrotting festival run, and set to

feature an expanded 11-piece line-up, the show will see the band pulling material from their entire catalogue, including the forthcoming sixth studio album, 'Valtari'.
www.icelandairwaves.is

RECORDING STUDIO

# Sundlaugin

Converted from a drained, abandoned swimming pool built in the 1930s and adjacent buildings, Sundlaugin is one of the leading Icelandic recording studios. It is owned by Sigur Ros, who used it as a rehearsal and recording space from 1999 to 2008.

Since then it has been open for all projects. The studio sits on the outskirts of Iceland's capital.

Sundlaugin recording studio consists of a large live room, which is designed for both ensembles and solo artists. There are four adjoining isolation booths and a spacious control room with stunning views.

The control room's spec is based around a Neve VO console and a serious choice of vintage and contemporary mic pre-amps. There are also plenty of compressors, reverbs, and delay units.

Pro Tools and Logic are both run at the studio, and there is an extensive selection of plug-ins to choose from.

The live space was used as a rehearsal room for many years – an indication of how good it is for larger ensembles and bands who like to spread out. It is filled with backline. There is a large choice of both vintage microphones and standard models you'd expect to find. Also, due to the size of this recording room, it has often been used as a venue for intimate live performances and can comfortably accommodate 120+ strong audiences. It is regularly used for live recordings too.

In addition to the live space are four isolation booths. One of the booths is dedicated to guitar recording, and houses a large choice of acoustic and electric guitars, and amplifiers including a Fender Twin Tube, Vox AC30 & AC15, Marshall, Ampeg, and Sovtek models.

Also on-site is a large balcony and a barbecue area to use during the evenings.

Recent clients at Sundlaugin studio include Amusement Parks on Fire, Damien Rice, Hudson Wayne, Jakobinarina, Retro Stefson, Sigur Ros and Spritualised.
www.sundlaugin.com
www.miloco.co.uk

ARTIST/PRODUCER

# Björgvin Halldórsson

The moment Björgvin Halldórsson first appeared on stage singing *Penny Lane,* he kick-started one of longest careers in Icelandic pop music history. Having started out singing with the band Bendix, Björgvin has since been in bands such as Change, HIjómar, and HLH, and has released albums of children's ballads as well as a stream of notable solo albums. Björgvin also works extensively as a producer and musical director.

His voice can be heard on more than 500 recordings (he has recorded over 900) and he has taken part in many song contests both in Iceland and abroad. In 2005 Björgvin released a triple CD box, containing 70 of his most popular songs, along with four new recordings. He will be in the studio for the winter producing various albums, among them a tribute album to country legend Hank Williams and the seventh Songs of Iceland album, which contains many of the best Icelandic songs from way back when. Bo is also writing material for a new solo album.

Björgvin Halldórsson was born on April 16, 1951. After two years with Bendix, he joined Flowers, the most popular band in Iceland during this time. He fulfilled his dream of becoming a star with that band when they performed in the Laugardalshöllin arena for 4,500 people who then voted him pop star of the year on October 1, 1969.

## Media Viewer

**National radio and TV is provided by the Icelandic National Broadcasting Service (RUV), a public-service broadcaster owned by the state.**
**The RUV is obliged to promote the Icelandic language and the nation's history and cultural heritage. Its services are funded by a licence fee, and by advertising revenues.**
**Press titles include privately-owned and party-affiliated newspapers. The constitution guarantees press freedom. Iceland came joint first in the Reporters Without Borders 2010 world press freedom index.**
**In 2010, Iceland passed legislation that it said would give greater protection to journalists and their sources than any other such law in the world. The WikiLeaks website helped to draft the law.**
**By mid-2010, 301,600 Icelanders were online – a 97% penetration rate (Internetworldstats).**

### Television

**Icelandic National Broadcasting Service – operates public network Sjonvarpid**
**Stod 2 – main private station**
**Syn – private**
**Skjar einn – private**

### Radio

**Icelandic National Broadcasting Service – public radio, operates two national networks and four regional stations**
**Bylgjan – main private station**

# Dog's Life For Tsunami

***Tsunami Music*** is toasting the success of *Square Enix's* new chart-topping videogame release Sleeping Dogs – a gritty, visceral, relentlessly 'real' open-world cop drama set in vibrant Hong Kong. The Soho-based outfit was drafted in some months ago to look after music licensing, but ended up creating a series of real-world branded radio shows, as Tsunami's *Ken Easter* explains: "We set out to deliver something serious, unique, and creative that would sound like you were actually in Hong Kong. We thought about how well-known global radio brands create radio shows and syndicate them around the world and how relevant that was to, for instance, the huge ex-pat community in Hong Kong who, when jumping into the back of a cab or walking into a café might just as easily find themselves listening to a globally syndicated Western radio show as to one of the local Cantonese-language stations."

The company leveraged its relationships with various music brands to secure interest from labels, thereby not only providing kudos to the game via 200-plus carefully chosen tracks, but also, where possible, via the branding of radio station names. Easter: "Approaching an internationally respected label like Warp Records with the idea that they'll have the name 'Warp Radio' in this amazing videogame with their logo featured (plus we'd like to license 20 tracks) proved a compelling proposition. From a music brand point of view, with the music industry struggling, any exposure in a popular mass market entertainment medium directly relevant to their target audience is welcome. It feels like we're breaking new ground as none of the brands we worked with have done anything like it before – including the likes of Kerrang!, Ninja Tune, Warp, Daptone, Roadrunner, Boosey & Hawkes, etc. who all sport their own in-game branded radio station."

**"We set out to deliver something serious, unique, and creative that would sound like you were actually in Hong Kong."**

Ken Easter, Tsunami

The game features a wide cross-section of genres from heavy metal to classical with Tsunami also creating an entirely Cantonese radio show. In addition to identifying the most suitable brands, brokering deals, plus selecting and licensing all the music with Square Enix, they also created the DJ chat, bespoke jingles, and some fifty imagined radio advertisements for which they handled voice casting, scripting and recording duties, and liaised with the various brands as to the choice of DJ voice talent for each radio station.

**www.tsunamimusic.com**
**www.sleepingdogs.net**

## Taylor Joins MAS Awards Board

The Music and Sound Awards were launched in October 2011 by co-founders Nick Payne and Dan Neale to 'celebrate creative excellence in music and sound design'. Now in their second year, the awards seek to throw a spotlight on the good folks that create, source, and supply applied music and sound design for film, TV, advertising, and games.

Nick Payne: "Dan and I researched the landscape enormously before launching, talking to as many composers, sound designers, music supervisors, directors, developers, and producers as possible from the various industries – and the idea was welcomed by all, so it seemed like a no-brainer to launch the awards. We invite clients and users of music to celebrate with us and have seen a very encouraging number of them enter work and attend the ceremony. At the first MAS awards, half of the thousand-strong crowd at KOKO was 'client side' – great for year one and a vital part of our planning to facilitate a superb networking and showcasing opportunity.

"However, last year we felt under-represented in the videogames business and that recruiting Sony's Garry Taylor would add stature to this side of things. It's important for us that the Awards represent all industries well and having specialists from each (advertising, TV, film, and games) on the board will strengthen our representation of all of them."

## Dynamedion Hosts Eleventh Open Orchestra Session

October saw the eleventh in the popular series of 'Open Orchestra' sessions run by Dynamedion, a European studio offering music composition, sound design, and music production services for games and television. These 'group buy' sessions are available to anyone needing an orchestral recording, even if it's just a 30 second jingle. Dynamedion hire the orchestra, studio, and staff, then sell off chunks of recording time to multiple clients offering their own music preparation and orchestration skills for hire alongside.

This latest two-day session took place with the 66-piece ensemble 'Brandenburgisches Staatsorchester' in the city of Frankfurt Oder near Berlin. Previous sessions have deployed many other orchestras in locations as diverse as Prague, Budapest, and London. According to Dynamedion's Managing Director, Pierre Langer, the team's recent orchestral recording/production credits include KINECT Star Wars, HALO Legends and Alan Wake. The next Open Orchestra recording will take place early next year.

For more information, visit http://www.dynamedion.com/orchestra/session or email orchestra@dynamedion.com.

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# TSL + Soundfield

TSL has had a busy time of it. One has become two, and now TSL Professional Products has become an entirely distinct and separate company from TSL Systems Integration. Not only that, but in the same period, TSL Professional Products bought Soundfield – the company that started with a small business in the specialist multi-channel microphone field, and that came into its own as demand for surround sound microphones and upmix and downmix processing solutions for live multi-channel television broadcasting increased.

Martin Dyster, Director, Head Of Audio, and Pieter Schilliebeeckx, Product Manager at Soundfield, talks to Paul Mac about the near future and the far future.

Paul Mac: Why and how has TSL restructured?

**Martin Dyster:** "The company that has become TSL Professional Products has been a growing off-shoot of TSL Systems division for some time. Born out of the integration business, we have been producing products going back some 20 years – things that just didn't exist in the industry like bespoke audio monitoring products, the tally control systems, and then the power distribution products. The company has grown to the point where our biggest customer isn't TSL Systems Integration anymore. It's got to a point where we can stand on our own two feet. We're now separated from TSL systems integration; we're an entirely separate company with our own management, our own accounting, and registered as TSL Professional Products Ltd at companies house... And we're in our own building in Marlow, Buckinghamshire.

"It gives us the autonomy to maximise what we do with our profits: to re-invest in people, re-invest in ideas, and bring new products to market."

PM: Will you look further afield than the broadcast market?

**MD:** "I think we have to. The broadcast industry has clearly been our core market and audio products have been for use within the broadcast industry. Our Tally system of course is very much a television broadcast system. But if you look at our Power management system and our intelligent power management dashboard, that has been quite successful in the IT industry – outside of broadcast.

"Some of our audio products have sold into the AV industry and into theatre. Of course, the acquisition of Soundfield takes us potentially >

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into other markets as well. I think we're open to anything, though we are looking at markets aligned to our own industry. We're not going to do anything completely left field."

PM: What will be the 'next big thing' in audio?

**MD:** "...It's got to be IP infrastructures. Everybody just rediscovered MADI, which is great. Obviously there's some work to do for us because we don't currently have any MADI solutions in the market, so that's definitely a place that we're going to. But also audio over IP, in terms of infrastructure, is very important.

"There are are other things that we have to think about. Dolby Atmos is currently on everybody's lips and that's one thing that we're very interested in. These are exciting times; lots of new ideas and new stuff going on. We've got to keep at the front of it."

PM: Could you explain the thinking behind the Soundfield acquisition from TSL's point of view?

**MD:** "It takes us into a different space. We're a forward-thinking company, and we work closely with broadcasters who are involved in content creation. When it became known that Ken Giles was looking to sell Soundfield, we looked at the company, we looked at the products, we looked at the people there, and it became apparent to us that it was a good fit; that we felt we were a company who understood what Soundfield was all about – we could bring something to them, and they could bring something to us."

"The processing side of the business was a huge draw as well – the upmix and downmix processes. And having met Pieter for the first time at NAB I think we immediately realised that we had a synergy going on... we were having the same ideas... I hope that in the near future you'll start to see the fruits of some of those ideas."

PM: Pieter, what does this change for Soundfield?

**Pieter Schilliebeeckx:** "An awful lot will change, and an awful lot will stay the same.

As it stands we have a great product line up, but outside of the UK and certain parts of Europe no one knows about it. I think the first big thing, and this is what we're doing already, is to take our product line up and show it to people, show them how it's being used, and get them excited.

"Thinking a little bit further ahead, what's really exciting is working with people like Martin, bouncing ideas off each other and coming up with more new products. But also we're backed with better R&D resources. At Soundfield I was sales, technical sales, and the person designing all the products. It will be very nice to have a team behind us to develop those ideas, hopefully at a far faster pace. We were not known for delivering products quickly.

"As time goes on you will see a lot more integration of thoughts and of products..."

PM: Long term, what will distinguish Soundfield?

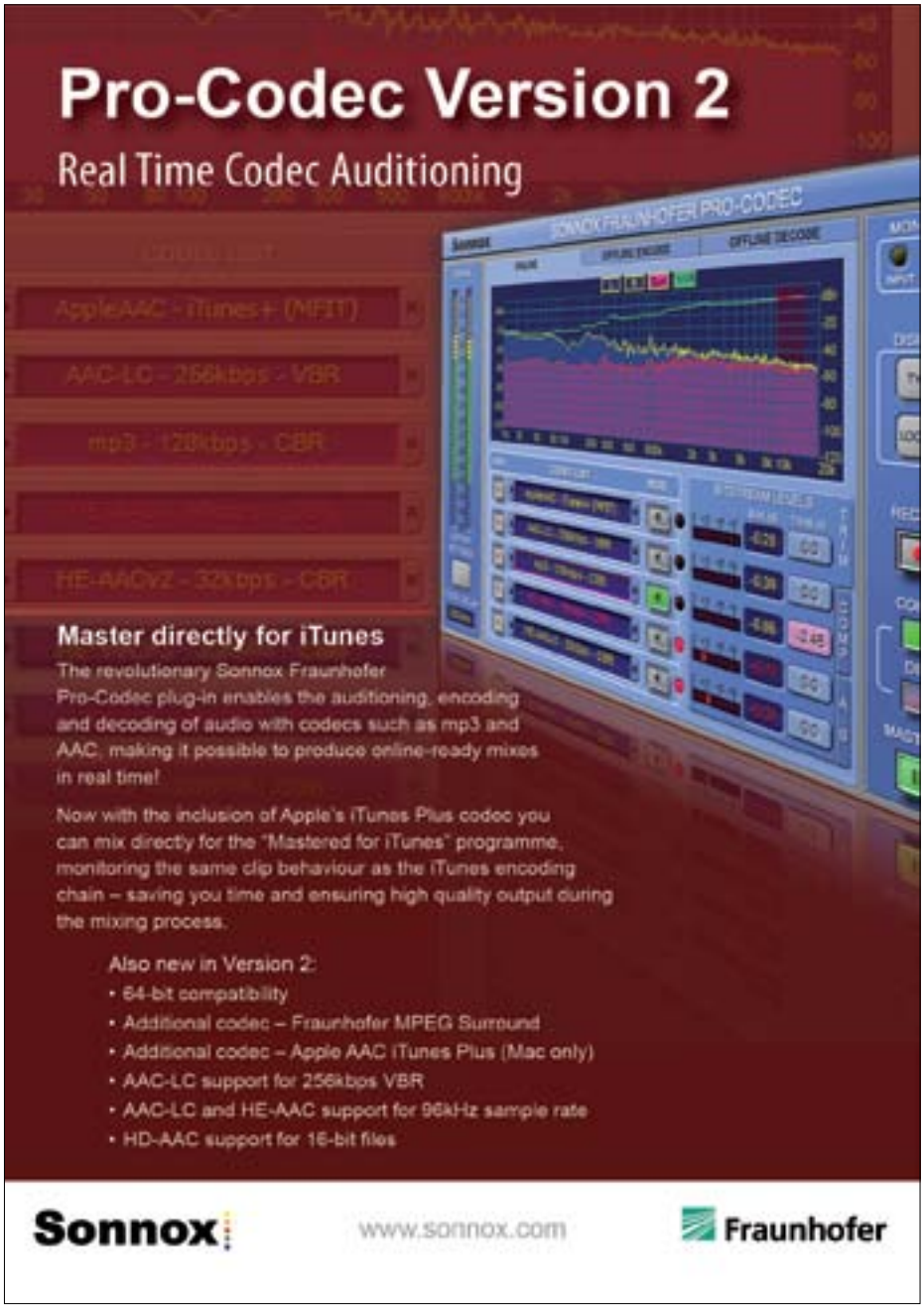
**PS:** "We want to keep it separate from a brand image point of view, but I think the very important part is that everything else will be 100 percent integrated. Obviously there are slightly different manufacturing techniques involved with microphones and stuff, which is what we're bringing to Marlow; but at the same time in Marlow we will take advantage of ISO9000 certified manufacturing processes The Soundfield factory is still up in Wakefield but as soon as possible we will move the whole thing down to Marlow.

"I've only been with the company since September 6. It was all signed on September 5, and obviously a lot of my time has been spent on the more mundane part of integration, which is very important; so if someone places an order we want it to run completely smoothly, and so far that's worked out perfectly.

"But already we are having discussions about what could we do with this. I've had a lot of ideas over the last ten years and a lot of these ideas have not been acted upon on purely because I just didn't have the time and the resources. If you're in a larger company and you have an idea you can then pass it over to an R&D team who can then scratch their heads and find a way of making it happen." AM

**"We looked at the company, we looked at the products, we looked at the people there, and it became apparent to us that it was a good fit; that we felt we were a company who understood what Soundfield was all about."**

Martin Dyster, TSL Professional Products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# Conch Recognises Newcomer

**STEPHEN BENNETT**

The Conch Awards were introduced in 2004 to celebrate outstanding achievement in the area of audio for film, television, and commercials within the UK. This year, the 'Most Promising Newcomer' section was awarded to Soho Square Studios' Adam Smyth. The awards committee were highly impressed with Smyth and commented, "There was so much work of a very high quality, that selecting a winner in the Most Promising Newcomer category was by far the most difficult task of the day."

Smyth graduated from the London-based Alchemea College with an audio engineering qualification. "I had studied engineering and had a grasp of what everyone does in the studio, but I realised I needed to train with the right people and in the right part of the industry," says Smyth. "My big passion has always been music and I got a running job at the Pierce Rooms in London where I did all the usual jobs of cleaning and stacking the dishwasher. But on a few occasions I did get into the studio – for example, I assisted on sessions with people like Ian Broudie (of the Lightning Seeds.)"

While at Pierce, one of Smyth's tutors at Alchemea presented the young engineer with another opportunity to gain experience in the industry at the Voice and Music Company at Soho Square, London – now Soho Square Studios. "I learned studio etiquette there and it also opened up my mind to the bigger picture within the audio industry," he says. "I picked up a lot and learned better methods of working from these experienced people."

Smyth found himself editing dialogue tracks for the BBC and in time moved to working on sound design for adverts. "It kind of all cascaded to me becoming a fully fledged sound engineer within two years," he adds.

The work that earned Smyth his 2012 Conch gong included television adverts and dubbing work, as well as television documentaries such as The 9/11 Decade for Al Jazeera, and Love on the Transplant List for BBC3. Also submitted for the Conch panel's consideration was a 2012 BAFTA nominated piece called Bobby Yeah. "The sound design and original mix was done by the Director Robert Morgan and his assistant Zno," explains Smyth. " What I did was to create a surround sound version – but I had very limited time, so the process for that was really creative, and I was mixing as I went along.

It was quite nice to actually take someone else's sound design and add my own stamp to it. This film is the one I was most proud of, because of the limited time we had and the amount of creative input we were able to have."

Smyth's award winning portfolio also includes radio advertisements for companies such as Lancome, as well as one featuring a very famous piece of music in a very unusual setting. " I did an ad for the Olympic Delivery Authority which was a version of Vangelis's Chariots of Fire scored with car horns all pitched to the right notes," he explains. Smyth doesn't see himself performing a single role at Soho Square Studios. "I'm not just a dubbing mixer and I'm not just a sound designer," he says. "It's interesting to work in the different disciplines, from working on the audio for TV commercials to mixing the sound on a documentary or a TV drama series, then doing a radio play or commercial." His portfolio also includes commercials for Samsung, Barcardi, and Bombay Sapphire, as well 5.1 cinema trailers and TV work for Foundation TV and Maverick Television.

Smyth is still in his early twenties and the award is a confirmation of the way he has rapidly gained respect from his peers. It also clearly demonstrates that his determined attitude to working in the industry he loves has paid off handsomely – but he was still overwhelmed by the award. "Everything has happened so quickly," he says. "There is obviously a wealth of talent out in the industry, so to be recognised out of all of the people that would have been considered for the award, is very humbling – but it's bloody good news!"

Paul Robson (R), Managing Director of Medialease, presents the Newcomer award to Adam Smyth (L).

**The Conch Awards are in their seventh year, celebrating outstanding achievement for those working in film, television and commercials audio in the UK. The 2012 Awards ceremony took place at the Mayfair Hotel in London on 19 September, with 300 members of the UK audio industry in attendance to applaud the lucky winners.**

**Audio on TV Entertainment of the Year**
**BBC Later with Jools Holland**

**Sound Design & Editorial Team of the Year**
**Oliver Tarney & team**

**TV Sound Recordist of the Year**
**Paul Paragon**

**Film Sound Editor of the Year**
**Lee Walpole**

**TV Sound Editor of the Year**
**Tony Gibson**

**Audio on TV/Film Documentary of the Year**
***Senna***

**Production Sound Mixer of the Year**
**Simon Hayes**

**Most Promising Newcomer of the Year**
**Adam Smyth**

**TV Dubbing Mixer of the Year**
**Scott Jones**

**Commercial/Promo Facility of the Year**
**Wave**

**Film Soundtrack under £10million**
***The Kings Speech***

**Film Re-recording Mixer of the Year**
**Chris Burdon**

**Audio on TV Drama of the Year**
***Strike Back- Project Dawn***

**TV Mix Facility of the Year**
**Envy**

**Film Mix facility of the Year**
**LipSync Post**

**Film Soundtrack of the Year over £10 million**
***Tinker Tailor Soldier Spy***

**Outstanding Contribution**
**Dennis Weinreich**

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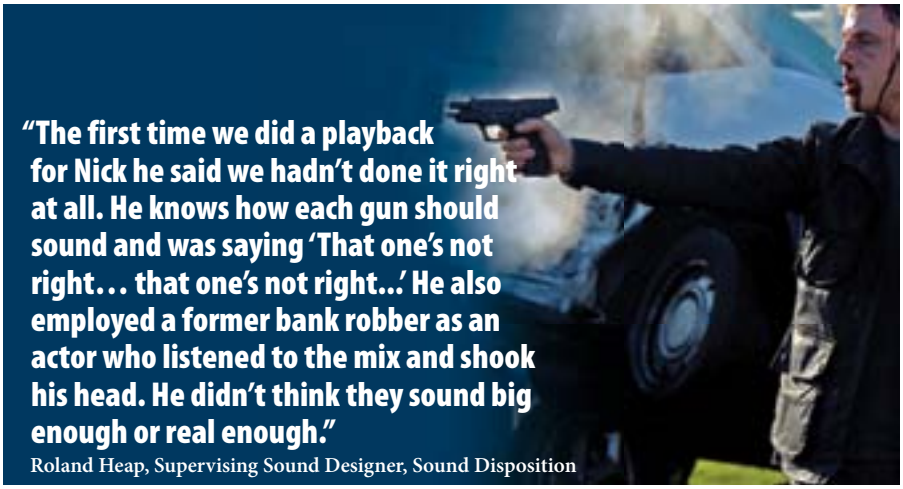
# The Sweeney

JERRY IBBOTSON

**There are certain phrases** I've been itching to use in the years that I've written for *Audio Media,* and one of them relates to projects where the customer expectation far exceeds their budget: they want Hollywood, they pay Cricklewood. When I put that to Roland Heap, Supervising Sound Designer on The Sweeney, the sound that came down the phoneline suggested he'd just snorted out his tea.

His team from Sound Disposition completed a full audio post package on the update of the classic 1970's British cop show for a relatively modest sum; certainly when compared with the quality of the end result (I've been given the budget figure but can't divulge it on pain of death – but take it from me it's small).

The company, based in north east London, has been running for a couple of years and works mainly on indie British films including *Shadow Dancer* (starring Clive Owen) and *Pusher.* With *The Sweeney,* Director Nick Love had something very specific in mind.



**"The first time we did a playback for Nick he said we hadn't done it right at all. He knows how each gun should sound and was saying 'That one's not right… that one's not right…' He also employed a former bank robber as an actor who listened to the mix and shook his head. He didn't think they sound big enough or real enough."**
Roland Heap, Supervising Sound Designer, Sound Disposition

"He really was after the overall sound of a Hollywood blockbuster," Roland said, "As big and beefy as *Heat* and *Ronin* but on a tiny budget. All his references were to the kind of films where the sound was done at Skywalker."

### Big Cops And Big Cars

The mention of *Heat* and *Ronin* is quite deliberate. Given that The Sweeney is about tough, armed cops tearing round the streets of London in fast motors (said in a 'saarrf' London accent), two of the key audio elements of the film were guns and cars. Roland was told to make the weapons sound like the first movie and the cars like the second. Nothing like setting the bar high.

To make matters even more exciting, they had a tight schedule to work to, which then got even tighter. "We had a few weeks shaved off the schedule, leaving us with eight weeks to turn round all our work. The producers had a screening planned for Cannes and didn't want to use a temp mix. They basically rang us to say, 'You start on Monday.... Go.'"

But Roland and his team love working with Vertigo Films, one of the most prolific studios in the UK at the moment, and got stuck in to the project.

"There were some areas of the film that had no sound in at all, and some real stand-out sequences. The main one of these is the large gun fight in Trafalgar Square, of all places. The production team only had one morning to film this and only a partial lockdown of the area – there were still tourists around to watch the shoot out! Importantly, the team couldn't make any noise so blank-firing guns weren't allowed. They had to pretend, which made it a challenge for the actors to react to shots. But it gave us a blank canvas for sound."

With the director's comments ringing in their ears, the team from Sound Disposition took a close look at his benchmark film for gun sound – *Heat.*

"The guns in *Heat* sound amazing, but are quite distorted! This may have been the analogue tape

compression from when it was recorded, but the sounds of the guns are huge. We copied this by saturating our audio with compressors – though in a very controlled manner. We also used lots of reverbs, with an enormous number of different pre-sets being used. *Heat* was shot using blank firing guns, and apparently on some occasions this location audio was kept in the finished mix to add punch and realism. With *The Sweeney*, all the gun effects were built from scratch and laid on in post. But Director Nick Love is something of a gun aficionado and cast a very critical ear over this area of the audio.

"The first time we did a playback for Nick he said we hadn't done it right at all. He knows how each gun should sound and was saying 'That one's not right… that one's not right...' He also employed a former bank robber as an actor who listened to the mix and shook his head. We'd been unrealistic about automatic and semi-automatic fire. And he should know!"

So the Sound Effects Editors Udit Duseja and Enos Desjardins ended up creating enhanced versions of each weapon. They homed in on the essence of each; finding what it was about the real weapon sound that the director liked so much. "For example, there's one gun – the H&K G36 – that has a distinctive mechanical sound, so they created something that focuses on that element. I wasn't much of a gun expert when I started this project, but I am now!"

Then the sounds were made to fit into the open, urban environment of Trafalgar Square. "We created a set of custom impulse responses recorded in open spaces to use in a huge bank of Altiverbs. We needed to capture the reflections off all the buildings and objects you find there."

Roland and Sound Re-Recording Mixer Tobias Fleig also adopted particular panning techniques for the gun sounds when it came time to mixing the shoot-out scenes. "We had very hard panning of the guns that are being fired off camera. If a gun is fired onscreen we panned to the centre speaker, but if they were offscreen we would push them primarily from the left and right. This gives a sense of movement during the shoot-out scenes, but keeps the power very much in front of the viewer.

"We also used long delays on the reverb of the guns. Initially you hear the sound in front of you, but then there's a roar in the rear speakers with something like a 100 m/s delay."

### Chasing 'Massive' Sound

The other big sound effects element of the film is the car audio, with epic car chases involving cars like a Jaguar XJ V8 and a Ford Focus ST. But until virtually the last week of the post process the team did not have access to any of the actual car types to record and so had to use placeholder audio based on library material. But with the final deadline in sight Jaguar came up with the goods, and an XJ was recorded by Enos Desjardins along with his assistants.

A six-channel recording was made on a track, with mics placed around the outside and inside of the car – mainly DPA 4060 and Line Audio CM3 mics. These fed into a Zaxcom Deva recorder. The material was rapidly edited and turned around in 48 hours and dropped straight into the mix, and added to the sense of "massive" sound that was required for the film.

Foley was produced by Clemens Endreß in Germany, with some extra material recorded by Sound Disposition themselves. A small amount of ADR was recorded at Trident and at De Lane Lea, but most of the speech in the finished film was the original, crafted by Dialogue Editor Marc Specter.

The initial dialogue and effects pre-mix was done at Post Republic in Berlin, with the final mix being spread over eight days at De Lane Lea in London, with just Roland, Tobias, Marc, and Nick Love present: "It got quite lonely in there, just us on our Pro Tools rigs!"

But with all the action, was there a danger that the dialogue might get lost? (Not mentioning a sci-fi franchise with a reputation for indiscernible voices).

"Not at all. We made sure we carved a space for the dialogue in the mix. The film was shot and edited to allow that to happen – people aren't ever talking over lots of gunfire or engine sound. It was all about getting the mix right."

"The score really helped with that. The Composer [Scottish composer and musician Lorne Balfe who has worked previously alongside the likes of Hans Zimmer] was faced with the same sort of constraints as us, and made good use of samples rather than recording a full orchestra. In the final mix it sounds brilliant and you can't honestly tell."

### Giving It Everything

The end result is something that Roland is proud of. "We are pleased and more importantly so is Nick. He doesn't mess around. He'll tell you if something is wrong and he's said that we've raised his little film up to sound like something much bigger."

One problem this throws up, I suggested, was that people might expect Sound Disposition to always do this; produce high budget quality on low budget costs. "Yea, that is a potential problem. We might make it harder to get ourselves a bigger budget in the future.

"But frankly it would kill us to do this kind of project again! We worked flat out on this and gave it everything we had because we wanted to. And although we knew we were working on a small budget, we still had the usual problems of late edit changes and so on that you'd get with something much bigger. When we saw the original script we thought, 'He can never make this film'. But he did. And we wanted to be a part of it." AM

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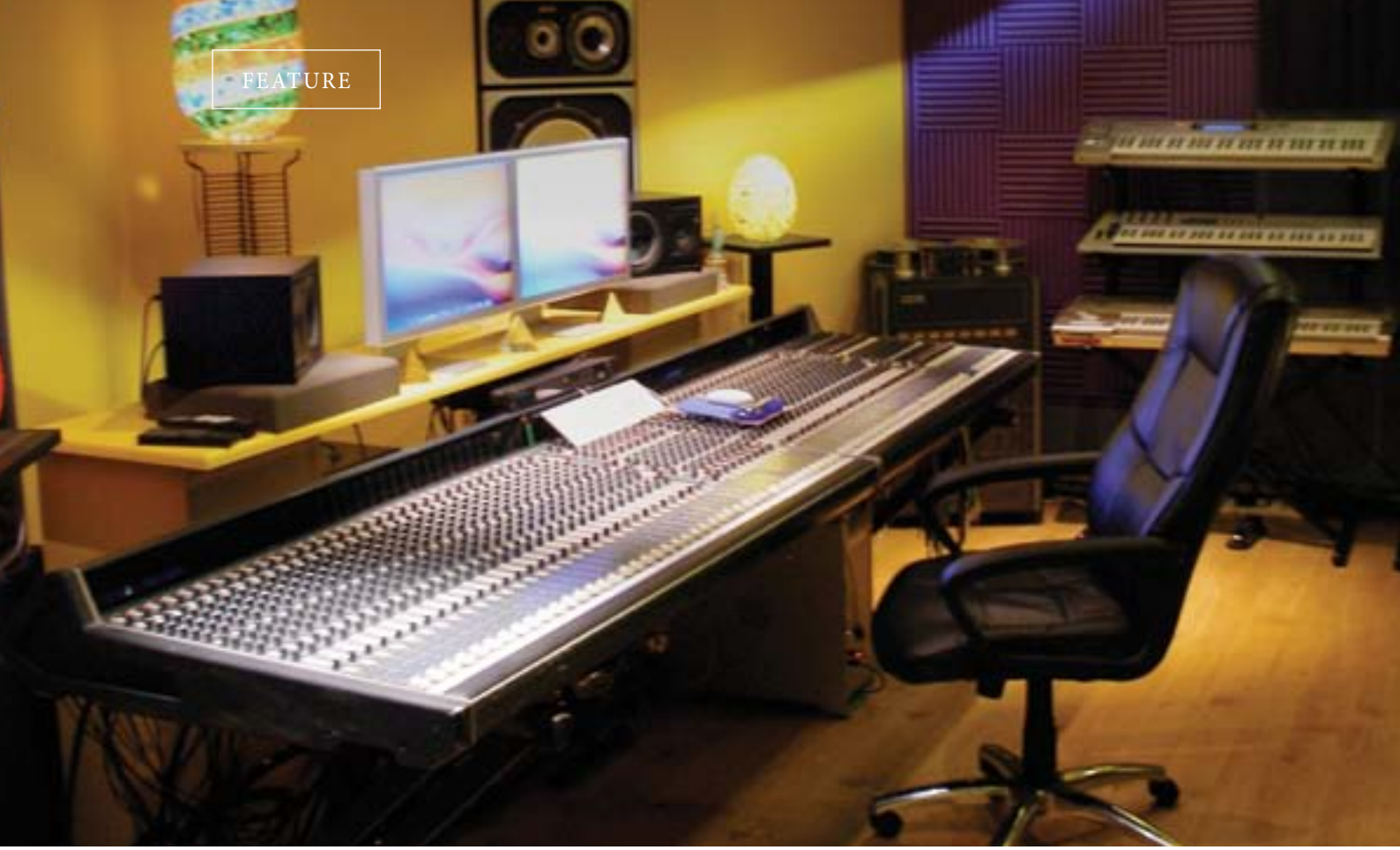

# Studio Time

**Studios aren't extinct yet, but they're having to work harder than ever to get the punters in. So where is the irresistible value for the discerning studio customer? What brings them in and brings them back? What turns them off? PAUL WATSON finds out.**

"It's really only Hollywood movies, big orchestras, and country artists that continue to target that big fat sound using old school analogue kit," insists David Tickle, Recording and Mix Engineer for Prince during the mid 1980s. "Aside from that, everything's pretty much gone digital; that's been the main change I've seen in the studio scene in recent years."

Tickle worked on a number of Prince's albums including *Purple Rain, Parade,* and *Under A Cherry Moon;* and he was also responsible for the ergonomic layout and design of the star's $10 million Paisley Park recording facility in Minneapolis. Tickle recalls how 'specialist' the role of a studio engineer or producer was, "back in the day".

"When rooms were analogue, the level of expertise required to run a room and record in it was extremely high; the art of engineering was all about achieving depth and widening the sound using Neves, APIs, and SSLs," he explains. "Since the advent of digital, so much creating can be done on a laptop or even an iPad, so the cost of making a record has come down drastically, but on the other hand, the clinical 'perfect' digital sound has basically diminished the overall quality of recordings. People are listening to music on tinny-sounding iPhone headphones, so the sonic quality and value has dropped significantly, and you can't get that wide sound when working in the box."

To keep clients coming through their doors, some of the larger rooms that are still in operation have dropped their prices – some quite radically. This, Tickle says, is where artists can find true value. For example, Tickle notes that a day in a fantastic place like Peter Gabriel's Real World Studios used to be between £500 and £2,000 per day. Now, he reports, you can get the same time for a lot less money. "Artists using a facility like that can now get a lot more for a lot less; the way the rooms are built for a true and honest sound provides great value – you can record orchestras in there, anything you like, really; but these crashes in price are about survival, essentially."

**"To a large extent, the days of a producer being known for their 'sound' have gone."**

Shaun Lowe, Prism Recording Studios

Though he is not adverse to musicians working from their home studios, Tickle emphasises the benefits that artists enjoy by using the high quality equipment that many of the top recording studios still offer.

"It is *so* expensive to buy classic tube mics such as the Neumann M49 and C12; and the collection of microphones available in these 'dinosaur' studios is just fantastic, so there's more value, right there," he says. "Having said that, you can do an awful lot in a home studio now – it makes sense to record what you can, and perhaps mix back through a classic analogue console to bring the quality back up again – just use the high-end stuff for the premium parts of the audio."

### Value Incorporated

In agreement with that last sentiment is Paul Stewart, drummer for UK pop act, The Feeling. Stewart, in fact, has just finished building his own 'drum room' at home, which is packed with high quality A/D converters, microphones, pre-amps, and a vintage Ludwig drum kit. Recording studios, he says, "don't come cheap!"

He recalls his first enquiries at top-flight London studio British Grove, just before the recording of The Feeling's third album. He reveals. "It was about £1,800 a day, I think, and we asked what kind of a deal we could get if we were in there for three weeks. The response? £1,800 a day!"

While that may well be an example of knowing your >

value, artists are certainly increasingly aware of recording costs, and what crosses the line in terms of both value and service. Stewart: "We were recording at Olympic – that was around £1,500 a day. After the session, we wanted some CDRs made up, one for all the band members, the management, the record company dudes, and they charged us £15 a pop! It worked out about £150 extra, which we weren't told about – they were only screwing themselves really... Getting greedy."

On the flip side, renowned Mix Engineer Cenzo Townshend has just made a smart move: although previously only seen in studios like Olympic or Metropolis, he has just built a room in Norfolk, close to his home, which will mean he can mix at a significantly reduced rate. This, Stewart says, is a positive step.

"Cenzo is one of the world's finest mix engineers, and for us he was unaffordable when working out of London; this revelation, however, means we can now afford him," he smiles. "Generally speaking, when you go to a professional studio such as Air or Rak, you're going to get a vintage SSL or Neve mixing console, and a great selection of mics, but more important still, you get a fantastic live room; that's where the real value in a studio is – and no matter how much you might tweak a drum sound, you can't beat a truly beautiful acoustic; I know people that have spent tens of thousands trying, and they haven't achieved it."

### Then And Now

Stuart Epps helped build The Mill in Cookham, where he then worked as an engineer for 20 years, firstly for Gus Dudgeon (Elton John's Producer) and then for Jimmy Page, when he bought the studio. Epps currently works from a relatively modest home set-up, though his love of The Mill is still evident.

"I literally dream about being back at The Mill every other night – it's pretty bizarre, actually! Being the perfectionist he was, it was Gus who put £1 million into the studio back in 1974 – which would be about £15 million these days. It had amazing stories and exceptional equipment; really, it was the ultimate recording studio," he says. "It's all different these days, of course, and it's a sad thing that a lot of these places are now extinct; although what really impressed me recently was my experience working at State of The Ark [in Richmond]. That place has everything vintage you could possibly want: Terry Britain (responsible for Tina Turner's What's Love Got To Do With It) obviously had the same idea Gus had, and it's good to see there's still some demand for such a place."

Project studios, Epps says, are more prevalent than ever before; his current recording projects involve working over the Internet with a string of international artists, many of whom, he has never even spoken to!

"For ages I was thinking 'I can't get anyone to find budgets for proper studios', and I got so fed up with it that I decided to invite people to give me their own home recording and I'd make it sound like it'd been done in a professional studio," he explains. "I just did a project with a girl in South Africa: she sent a guitar and vocal to me, I played piano and keys, and John Martin (ex-Voyager drummer) did the rhythm track. I was very proud of the results, and you know what, to this day I have never even spoken to the girl. It's amazing how the recording scene has changed so dramatically.

"Nowadays, so much is done over the Internet: bands can record their tracks in a studio, then maybe send them to someone in New York for processing, then it comes back to me for mixing, and then off to someone else for mastering – it's not a question of bands going somewhere to remix or do overdubs, it's now a case of digitally moving from one country to another without even going there! It saves on air travel, I suppose."

### The 'S' Factor

What is missing from many recordings as a result, however, is the 'old studio magic', Epps says.

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"In many ways, the way the studio scene has changed has been great for me, as I am working with so many interesting artists and it's good value all round – for me, and for the artists; but what is often missing in a recording as a result of the digital age is that sparkle that you can't quite explain – that 'magic' that just happens when you're in a studio; that's what you lose," he reflects. "It's funny really – in the old days, we used to joke 'why don't you phone it in?' if a musician couldn't be bothered to get out of bed; these days, that's a reality!"

**Catering For All Colours**

Shaun Lowe has run Prism Recording Studio in Stoke-on-Trent for 20 years, and says being as versatile as possible has been key in keeping his business booming.

"It's so important these days to be equally as accommodating to a dance or dub-step artist as you are to the pop or rock 'n' roll acts, because to a large extent, the days of a producer being known for their 'sound' have gone," he says. "Of course there's a danger of becoming a jack of all, master of none, but from my point of view, I have had a few successes with various genres that have received critical acclaim, from Christian metal to ska. I work with all sorts of different people here."

Lowe's facility has dedicated drum rooms, piano rooms, and live rooms, and is located in an underground bunker, which also adds the 'cool factor' that some bands are looking for.

"It's important for bands to be comfortable, and I'm lucky that this facility is unique and quirky," he adds. "I'm also one of these people that doesn't shut the door to the little guys, as I find you can learn so much from most people. One guy comes in regularly with lyrics and bits of melodies which I then translate to a song, which is great for me as it's so challenging, and I never know how it's going to turn out; it's important to keep everything fresh – it keeps you on the ball."

Prism Studio's location is also an advantage, as in the area there is no-one that can compete with what Lowe offers. A number of small, project-type facilities have recently opened their doors, he says, but have made little impact.

"I think with most studios downsizing these days, people don't see studios like Prism unless they're in the big cities; and a lot of these often have a young kid straight out of music tech school at the helm, which isn't the ideal way of going about business," he says. "A few studios in Staffordshire have been set up in the last few months, but essentially they're just a Mac with an interface and a handful of cheap mics. These places never last, because bands talk; gaining a bad reputation after the first few demos isn't going to cut it in the long run."

And survival in the recording studio business is all about reputation, Lowe insists – especially these days.

**"You can't beat a truly beautiful acoustic; I know people that have spent tens of thousands trying, and they haven't achieved it."**

Paul Stewart, The Feeling

"I haven't changed my rates for five years – they haven't gone up, they haven't gone down; and I think because of that I have managed to build a loyal client base, which keeps me busy," he concludes. "Technology is so advanced now, and although I use my trusted analogue board, so many new ideas can come from the digital domain, and most of those can be done at the push of a button; it's just a matter of being creative with what you've got."

So although professional recording studios are certainly in decline, there is still value to be extracted from them – if the price is right, of course. Inevitably, the ease and cost-effectiveness of running a home studio means people will happily sacrifice working with classic consoles and vintage mics for unlimited studio time in their bedrooms with their mouse and four-channel interface, but as Tickle says, as long as Hollywood keeps making movies and the huge country scene continues to grow, the professional studio will still have a lifeline. And due to their magnificent live rooms, perhaps the leading facilities of today will always exist.

Let's hope so.

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Count Eldridge's 'highly personalised' space has been stripped back to the bare essentials – and he says his work has improved for it.

# Personal(ised) Space

**Report:**
**Janice Brown**

The incredible shrinking recording budgets that shuttered so many commercial studios in the last decade also saw the industry into a new era of private studios. In particular, mixers have had to streamline operations in private mix rooms to keep projects on budget. Here, efficiency – as opposed to flash – is usually the goal. But there's something else…

By the time mixers are assembling full-up rooms, they have – to some extent – cultivated a 'sound', and a vision for where they want to take it. Their personal control room tells that story. And given the availability of affordable and modular gear – not to mention the opportunity to technically and ergonomically customise and hybridise – many engineers are coming up with one-of-a-kind solutions.

"My console should say something about what I want to achieve in my art," says Producer/Engineer Allen Farmelo of the custom API Legacy console he built last year with Brooklyn designer François Chambard. Constructed with API's Legacy-series channel strips and a retro-analogue mid-century modern design, Farmelo's console is a working expression of his aesthetic as an engineer.

"It's a certain sensibility that will resonate with some people, visually," Farmelo says. "In that sense, the console speaks to my clients (and those I'd like to work with) in much the same way the sound of my records would speak to them. I think the console looks the way my records sound."

**Mixers have had to streamline operations in private mix rooms to keep projects on budget. Here, efficiency – as opposed to flash – is usually the goal. But there's something else…**

And given the way Farmelo (The Cinematic Orchestra, Talk Normal) works, the two are legitimately intertwined now. "This console has compressors on every channel, so I'm doing almost *all* of my tone and dynamic shaping right on the console," he assures. Tone-wise, the uncommon API Legacy components provided an additional level of distinctiveness he wanted out of this investment.

"Building this console allowed me to have exactly the instrument I wanted to have underneath my elbows for the next few decades," he says. "I'm working – in my career – to create a branded sound of my own, and working everything through my own console is part of doing that."

### Building The Future

While Farmelo was building his console, Producer/Engineer Brian Bender (Langhorne Slim, José James) was having visions of a future-perfect control room for his own Brooklyn studio, The Motherbrain. Having transitioned from a Neotek console to a Tonelux line-mixer, he appreciated a 'modular' solution. "To put it in plain business terms," Bender relays, "the cost-benefit analysis of having something that I could build and continue to upgrade as funds became available made a


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> lot of sense."

While he was looking for some outboard EQs, a fairly pristine but "hacked apart" 1960s WSW broadcast console came into his life. And with that began the dreams of how to combine the Tonelux, WSW, and Pro Tools into one custom board. Tipped off about Farmelo's console, he made contact and later contracted Chambard to design and build the desk. It should be up-and-running next month.

"The most important and revolutionary function of the console is that it's also a centralised location for Pro Tools," Bender points out. "The board has an Apple monitor in the middle, and will have a Euphonix control surface in the armrest, so you can always be working in the mix position."

Since The Motherbrain has a large, uniquely laid-out, full-band-sized tracking space and a generally awesome all-around vibe, Bender was careful not to prohibitively hyper-customise.

"The console is set up like a glorified split-console – so you can use any of the WSW side as a mic pre or line input at mix, and it's as simple as making a cross patch," he describes. "But if you just want to interact with Pro Tools, we balance the Tonelux side to -18 every two weeks so you can come in and just work right in Pro Tools.

"That's the hippest thing about it – that even though it's this really specialised, highly unique set-up, because of the way we designed it, you can choose to make its ergonomics work for you, rather than the other way around."

#### Design By… Me

Across the country in San Francisco, Mixer/Producer Count Eldridge (DJ Shadow, John Cale) has been working in a highly customised studio of his own design.

"I realised that if I was going to work on the kind of records that I liked, those took a lot of time, and a lot of time means a lot of money in studios," Count recalls. "I knew I could do so much of the work in my home studio if I just had a proper sounding room."

An early adopter of in-the-box mixing , and also a student of architecture, Count had a vision for his future workspace that he could build himself. "I saw that no matter how good a room we were mixing in, no one was really able to [trust what they were hearing] until they went and listened in their cars," he explains.

"I thought… what if I could bring the car into the studio? (figuratively). And so I built a room within a room in my one-car garage that's basically the size of a minivan. I minimalised my technical set-up to only the absolute essentials, and for the past six years I've been working in this space and had so much better results than the multi-million-dollar studios I'd been working at. I wish I'd built it sooner."

**"I saw that no matter how good a room we were mixing in, no one was really able to [trust what they were hearing] until they went and listened in their cars. I thought… what if I could bring the car into the studio?"**

Count Eldridge, Mixer/Producer

Though Bender and Farmelo have gone retro-futuristic with their analogue/tape/Pro Tools hybrids – Count has gone straight futurist with his set-up. He cites the "second wave" of analogue emulating plug-ins by PSPaudioware, Massey, and SoundToys, and the Dangerous Music D-Box for significantly improving his ITB mixes, and thereby his ability to mix full-time out of this room. And then… there's his chair – customised to enable long hours without injury.

"Adam [Savage] from Mythbusters built these stainless-steel paddle-like arms onto the side of my Aeron chair, so I can navigate through Pro Tools with my hands down by my sides," he describes. "There's a track ball and ShuttlePro on both sides, so I have all my Pro Tools shortcuts and navigation scrolling mounted onto the sides of my chair. And then I 'click' with my feet."

#### Time, Not Ties

By comparison, Producer/Mixer Jeff Balding's (Don Henley, Thompson Square) room might seem pretty straightforward. But Balding was on the same tip as Count and on the same wavelength as Farmelo and Bender, and so many others, when he built his room in Nashville.

"I was not so much influenced by the industry as by what I wanted to accomplish in a record," Balding notes. "And the time I wanted to have on a project. Seeing the budgets dropping, and the way things were headed, I felt a bit tied. I really wanted more time to be creative in my process."

He also wanted a console and, thinking as much about his space as the future, went with a 32-channel API 1608. "It has the versatility I was looking for," he says. "I'm back and forth in different genres so I needed something that could be competitive for radio, and then could also be more pristine, or hi-fi, or a more organic sounding. Plus, it has a smaller footprint and doesn't require a separate machine room."

But the thing Balding appreciates most? His studio was built to his own unique specs. "Everything you'd find in a larger studio, I have here," he says, "but the difference is that I was able to choose everything.

"I only use the wire I want, the cable I want, every choice is mine down to the clock – and there's maybe one other studio in town that has the Antelope Atomic clock that I use to drive everything. And if I want to modify a piece of gear, I can – I can do

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# Theatre Without A Stage

**There is one big difference between the National Theatre of Scotland and other national companies – they are a theatre without a building. Jo Fletcher-Cross finds out how this affects their work, and what they do when it rains.**

The National Theatre of Scotland was founded in 2006. It has no permanent performance space. Without a huge financial commitment to building and maintaining a physical space, the company has used all its money and energy to create work and take it all over Scotland – and not just to the large theatres in the cities, but to village halls and unlikely locations in the tiniest of communities.

Matt Padden is the Head of Sound (as he points out, his remit also includes video, but "Head of Sound and Video is a bit of a mouthful"). He has worked full time with NTOS since 2008. I met him in the office building and storage facility that functions as an administrative base for the company, in Glasgow, where Padden spends approximately half his time. "Mainly for each show we will hire a complete touring company, cast and crew, so my task with each of the shows is an overseeing role, but all of the early planning and the early discussion with designers takes place with me," he explained. "Typically, I'll go out for a show's initial fit up in tech week. Normally I'd be there for the first day, or the first couple of days if it's far afield."

The lack of permanent venue is highly unusual for a national theatre, and informs every aspect of the work of the company. "I think it is unique in terms of large theatre companies and works brilliantly for all the obvious reasons," said Padden, "You don't have any chance to become complacent or become over familiar with the equipment you always have in the same room, so every show is fresh." While it might keep things fresh, it also keeps everyone on their toes. "It can get strange in terms of keeping focus, certainly at busy times. There are times where you need a few seconds before you go into a room, to think – which is this room? I was freelance before I took this job, so I've always been used to every week being different. But here we've done shows in small football fields and even in airport departure lounges. It can be a logistical nightmare."

While the venues are always different, NTOS has a supply of equipment that goes out on tour, so some things remain the same. "We have a moderate amount of equipment of our own, which we'll deploy alongside hired equipment. It's all down to how big a given show is, how they've got the thing running. We're pretty much a d&b house for amps and speakers," Padden told me, and outlined the speakers in stock: E0, E3, E12-SUB, C6, and QSUBs with EPAC/D amplification; plus a supply of Genelec and Galaxy Hotspot powered monitors and various battery-powered amplifiers for mobile sound requirements. The general desks are Yamaha – 01V96, 02R96 and M7 digital mixers with MY16-AT cards, a Yamaha DME-64N processing engine, and also Yamaha MG16 and MG24 analogue mixers. Though the analogue boards are starting to gather dust a bit. "Any show of any complexity can now go out with a digital board," said Padden. "It's quietly hit the tipping point after a huge furore when digital boards became widespread and there was a lot of 'is this the right way to go?' And then it sort of happened without consciously being noticed."

There is also a stock of microphones, with Trantec s5.5 wireless systems with DPA4060 mics, plus Sennheiser and Audio Technica IEM/reverse radio systems, while the wired microphone stock consists of Shure SM57 and SM58s, AKG SE391 and SE398s, Schertler contact mics, Crown PCC160 boundary mics, and BSS DI boxes.

**"It's a brilliantly exciting job. It's a frequently bewildering job, but that's a good sign. It's always changing. It's always different."**

Matt Padden, National Theatre

### The Spice Of Life

One of the most exciting aspects of the work of NTOS is the spectacular variety of venues that performances take place in. "It still surprises me with ideas that are put forward. It's also that wonderful thing that you realise that anywhere can be a stage, in the same way that anything can be a subject to a photographer. There isn't a limit, and why should there be a limit?"

The freedom to do a show anywhere does, obviously, come with its own problems, particularly, Padden told me, in terms of the quality of the work. "The biggest challenge is keeping the standards consistent because irrespective of whether you're in the (Glasgow) Citizens Theatre, Barbican London, or an old bus maintenance garage, for all of them you aim for the highest technical standards you can possibly achieve. I suppose the challenges are >

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- 6 POPulation groups
- 8 VCA groups
- Daylight-viewable full colour TFT display screen
- MIDAS Latency compensation system
- iPad remote control
- Light weight, compact aluminium frame

MIDAS

midasconsoles.com

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> mostly the infrastructure needed to run shows in that sort of area, and the logistics of installing it and operating it. There's always equipment in highly unlikely situations, you know, eight loudspeakers in a cave with a tidal river running through the cave."

Padden feels the unusual nature of the locations where work takes place can relieve the pressure of being under scrutiny as Scotland's national theatre. "It sort of disarms what you might call the typical argument of, 'Oh you're a national company. You have to do that anyway'. You think, 'Yes, but we're also in a cave and we have to do this within two hours because then the tide comes in."

Some venues and productions are more challenging than others. Padden has set up shows on football pitches while a game is going on, ferries, airports, and all sorts of places in between. "The bus garage I mentioned was hard work; a semi-derelict building with access issues, all the things you'd find in a derelict building like asbestos, rust, uneven floors, missing floors – all the exciting stuff." That show was part of a series of site-specific performances run by the Learn department, Transform, which drew from the local communities. "They take ideas and stories from the local communities who then themselves develop the show, and then we provide the technical resources to create a working theatre and present it. They're often the most challenging – you can get some very unusual requests." An odd sense of reverse complacency sometimes sets in, Padden told me. "It's easy for the wrong reasons, in some ways, to get used to the fact that you're always in unusual spaces. When you go to a theatre, it seems a bit easy. Though sometimes it's a joy and a revelation, you just think, oh, it's got seats, it's warm."

It's not just the NTOS team who have to face up to the challenges presented by outlandish locations. "It's clearly new territory for whoever it is that becomes the host to it. They think, 'can we do this?', and you tell them, yes, you can do this. Why shouldn't you be able to do this? We're not doing it in a frivolous or irresponsible way. We follow all the industry practices and assess all the risks we need to assess."

Not only does working in this way make theatre available for people who might not have been able to engage with or access it previously, it also breaks down emotional barriers. "For the audience it can make sure its far more exciting. You dispense with the idea of entering an auditorium. There's a psychological aspect to that – I'm here now to see a show and I will sit here and watch a performance. But if you have an arrangement where that step never happens, you lose that point at which you can mentally prepare yourself, which adds potential and removes some of the habits of going to see a show."

**"A semi-derelict building- with access issues, all the things you'd find in a derelict building like asbestos, rust, uneven floors, missing floors – all the exciting stuff."**

Matt Padden, National Theatre

I asked him if there was an understanding at NTOS that sound was an important part of the process. "Yes – and it allows for the presentation of standards, which in same cases haven't been either reached before or haven't even been used or attempted before, and I'd say that for sound, for lighting, for video, and for staging – to bring values to a show, it doesn't matter if we're in Cromarty village or a huge theatre, we're presenting the show to the highest possible standard we can reach. It sometimes gets us comments that we can't do small shows, or are always touring packed full to the gills with gear, but the other side of that it is that it takes this amount of equipment to be able to present to that standard."

#### Team Touring

Padden is the only permanent audio staff, but for touring productions, he will take on at least one person each for sound, light, and stage, though for very small shows he may just have a stage manager and a technical manager to cover all bases. He hires staff from an established pool of freelance workers. "Scottish theatre is good for that. It's quite a small and intimate industry, and there's a group of people who I will use as first choice for shows."

The company has developed a reputation for developing new work and nurturing new talent, something that also applies to the technical side of the work. "We don't do any formal training as such, although we have arranged various suppliers and companies to come and do their training up here in association with us so that we can bring in a local crew to do that. One of the great things has been to bring in people who have either not used large desks, as an example, in the way they'd be used on something like a serious musical or a venue where there's five different areas of audience simultaneously, and to be able to think on all those extra levels. It's done more on an empirical basis, almost a show by show basis, but it links in with the ability to work with artistic talent that wouldn't have been up here before. Then the sound crew go on to carry on the ideas they get here on to other shows. It's taken more seriously now as a result, not just 'I'll stick a mic there and then turn it up'. Now it's, you sit down and plan this design, and the results are worth the extra effort. That's been the real source of satisfaction."

There does seem to be a great deal of satisfaction in Padden's work with NTOS. "It's a brilliantly exciting job. It's a frequently bewildering job, but that's a good sign. It's always changing. It's always different. It's wonderfully daft on occasion – being asked to provide cassette players, or miking up pieces of paper. You don't know what you're going to be doing every day." AM

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"We see a lot of digital systems that were on the market earlier, but none of them can really provide uncompressed audio as we can do. So the difference in sound is really astonishing."

**Claus Menke, Manager of Portfolio Management for the Professional Department, Sennheiser**

# Sennheiser **9000**

**Digital Wireless System**

**Sennheiser** has launched its brand-new flagship microphone series, the 9000 – its first digital wireless system. Aimed at professional users in broadcast studios and theatres, the system offers uncompressed digital audio transmission. The use of very steep filters allows a very narrow set-up of the respective radio frequencies within the available frequency range without risking intermodulation.

The heart of the system is the EM 9046 multi-channel receiver, incorporating up to eight digital channels, each with 328 MHz of switching bandwidth covering the UHF range from 470 to 798 MHz. The icon-based user interface provides a complete overview of the system via a large TFT display. The receiver has a variety of connection options to allow for easy integration into existing audio and IT infrastructure. Sennheiser claims that the Digital 9000 is a 'future-proof investment', as receiver modules can be exchanged easily for upgrade and maintenance.

The SKM 9000 handheld transmitter is compatible with microphone capsules from evolution wireless G3 and 2000 Series, including the Neumann KK 204 and KK 205 capsules. Three new heads, ME 9002, ME 9004, and ME 9005, feature a new shock mount design. There are 12 different compatible capsules for the SKM 9000 altogether, and it is powered by Lithium Ion energy packs.

The SK9000 bodypack transmitter is compatible with three-pin Lemo connector lavalier microphones, but also capable of providing cable-like audio transmission for guitars or other instruments with line level signals. Die-cast magnesium housing is lightweight and sturdy; while an icon-based menu structure and infrared synchronisation with the receiver make set up fast and efficient. As with the SKM 9000, exchangeable Lithium Ion energy packs provide the power.

The remote control AB 9000 antenna booster contains eight highly selective filters that each allow a 24MHz frequency window to pass. This adds safety to the system, as unwanted signals are blocked directly before the first active component in the RF signal chain. The frequency window can be remotely selected or changed from the receiver. The linear RF amplifier offers very high resistance to intermodulation and can compensate for cable losses of up to 14dB. The booster and receiver communicate with each other to verify the cable loss on the RF cable and adjust the gain automatically. The AB 9000 is available as a stand-alone booster, or as an integrated component in either the A 9000 omnidirectional or the AD 9000 directional antenna. Other accessories are also available.

Sennheiser took 10 years to develop the 9000 Series. Claus Menke, Manager of Portfolio Management for the Professional Department, explained why now was the time to launch the product. "After such a long time of development, it's really necessary to bring it out and find out about customer acceptance. With development, you can go on for years and years, and fine-tune the product, but in the end you need to prove that it's ready for the road. We have done that in various field tests and we have the feeling now is the time to do it."

The company tested the product in places where frequency availability is a real issue, such as Las Vegas, to find out if it could cope – which it did, something that is extremely important to its target market. "The unique thing about it is the sound quality, which is unrivalled in any other system today," said Menke. "We see a lot of digital systems that were on the market earlier, but none of them can really provide uncompressed audio as we can do. So the difference in sound is really astonishing. If you compare it with an FM system it's amazing, but even if you compare it with other known systems in the digital domain, it's a very big step forward again."

As it is Sennheiser's first digital system, it is not currently compatible with existing systems, but Menke said: "that might change in the future and we are evaluating ideas as to how we can create synergies between the systems we have and the new digital system."

The system is shipping now.

**From The Distributor**

**"Our new 9000 Series represents a big step forwards in terms of wireless audio quality, spectrum efficiency, and, through the use of Li-on batteries, ecological footprint. In the increasingly challenging RF environment that we all have to cope with, 9000 Series offers sound supervisors and sound designers options that are denied to them in the world of analogue transmission systems. These features coupled with outstanding audio quality mean that, once again, Sennheiser has raised the bar in the wireless audio element of professional content production."**

Alan March,
Business Development Specialist,
Sennheiser UK

**Information**

- **Transmits uncompressed audio, artifact-free**
- **Includes the EM 9046 receiver, SKM 9000 handheld, and SK 9000 bodypack transmitters**

**Manufacturer**
**Sennheiser**
**www.sennheiser.co.uk**

**Price Details**
**EM 9046: GB£19,992.00, SK 9000: GB£2,394.00, SKM 9000: from GB£2,394.00, A 9000: GB£1,350.00, AD 9000: GB£1,404.00 AB 9000: GB£954.00, Microphone Capsules from GB£504.00 (all prices inc. VAT)**

**THE REVIEWER**
**JO FLETCHER-CROSS is News Editor for *Audio Media* magazine.**

"The new Lyra 1 and Lyra 2 will not be budget interfaces – compromising on quality would betray the Prism Sound ideals."

Paul Mac, Audio Media

# Prism Sound **Lyra 1 & 2**

USB Audio Interfaces

**Prism Sound** has always stood for quality. Even amidst the still expanding yet still cheapening world of DAW I/O and conversion, Prism Sound has remained steady in its belief that quality will out. Orpheus was the first of its new generation of conversion and DAW interface products which, while the flagship ADA-8XR and AD2 units still pip it on a few specs is, according to Prism, the best convertor technology to date: "In terms of clocking performance and some analogue stage performance," says Prism Sound's Chris Allen, "The Orpheus is probably the best design we've come up with yet as a sound card."

Thus it makes sense to bring that quality to an even wider audience. The Orpheus then, has had babies... Lyra 1 and Lyra 2.

The name Lyra is in keeping with the Greek mythology theme. Lyra is the name of the constellation born of Orpheus' Lyre (different versions of the story abound). It's poetic, in a way – a small part of Orpheus given to a wider realm. Look out for the name as printed on the unit: λύρα. It's not as obviously 'Lyra' as Ὀρφεύς' is Orpheus.

The two two-third rack unit Lyras were conceived, according to Allen, "In response to people asking for an affordable yet high quality interface to fulfill the small I/O requirement – one of the biggest markets of the moment, with all the in-the-box stuff that's going on. So we have come out with the Lyra 1 and the Lyra 2."

Lyra uses the same high-end conversion as Orpheus, but the two will hold appeal for different users. Allen: "If you look at the back of the units you can immediately see significant differences. In terms of analogue I/O on Lyra 1 we've got two ins and two outs. There's one mic pre, and an instrument input on the front, plus TOSlink, and the USB interface. There's no clocking or other digital connections – it's a very straightforward, small interface.

"Lyra 2 has got two extra line outputs [total four], an extra mic input, word clock I/O, coaxial SPDIF and, like Lyra 1, the USB interface. The optical output on Lyra 2 will double as an ADAT output for the option of even more outs. We also have an Ethernet port. We haven't announced any solid plans for that, but we're looking ahead and considering things like AVB."

So, in total the Lyra 2 has the potential for 16 addressable audio outputs )including headphones) when you include the maximum number of digital options. Lyra's maximum sample rate is 192kHz.

In addition, the Lyras will improve on a few things over Orpheus, as Prism Sound learns from customer feedback. These minor amendments include providing greater gain on the headphone output, a few user interface tweaks, mic pads, and software-selectable inputs. Instead of having to choose an input by which plug is in and which is not, you can have all sockets filled and then select the inputs as you please.

The favourites are still there – high quality sample rate conversion, and the Prism noise-shaping variations. There's a mid-side decoder available for channels 1 and 2, and also RIAA curves if you want to connect your turntable as well.

Like the Orpheus, both Lyras have on-board mixers for low-latency monitoring and more. Mixers are arranged per pair of outputs, with all physical inputs, plus DAW inputs, available to them. Thus you can run several mixes out, balanced in the same way as an aux bus might be.

The Lyras will be introduced in physical form to the world at the AES Convention in New York later this month, and Prism Sound anticipates a warm welcome. The new Lyra 1 and Lyra 2 will not be budget interfaces – compromising on quality would betray the Prism Sound ideals. These boxes should appeal to the discerning customer who doesn't need the higher channel counts. We'll have a full review in AM at the earliest opportunity. AM

**From The Manufacturer:**

**We've been listening to the feedback about the Orpheus interface and one of the most popular requests was for a 2-channel unit. Prism Sound spends a lot of time on final design refinements for its products, particularly for the audio path, where others might just go with 'good enough'. So its been a long wait for Lyra, but with so much creative work in the box nowadays and the ever increasing sophistication of DJ productions we feel the time is right for a new premium stereo unit. We hope you enjoy it!**

Graham Boswell,
Director Of Sales & Marketing,
Prism Sound Group

**Information**

- Orpheus-quality input and conversion
- Low latency monitoring
- Analogue and digital outputs
- Mid-Side decode

**Manufacturer**
**Prism Sound**
**www.prismsound.com**

**Price Details**
**UK: Lyra 1: GB£1,349.00,**
**Lyra 2: GB£1,849.00 (both prices exc.VAT)**

**THE REVIEWER**
PAUL MAC is Editor of *Audio Media* magazine.

"SpotFire helps run the session proper with a simple rehearse–record–review process... By taking this approach, the operator can pay more attention to the performance."

# Solid State Logic **ScreenSound ADR**

**ADR/Language Dubbing/Foley System**

ScreenSound ADR is a complete ADR, Foley, and language dubbing solution with workflow from script spotting and session prep to video cue system, recording, and flexible export options.

I got a chance to sit down and chat with SSL Product Manager Tom Schuh at IBC to go over the main points of interest in ScreenSound ADR. The first thing to know is that the product is a coming-together of several components to form one single entity. The headline components of a ScreenSound system are SpotShot (dialogue spotting, logging session), SpotFire (session management, recording), and VisionCue (HD, multi-screen, video cue system). It's a turnkey system with (currently) two levels of entry. At the top level you get the lovely Nucleus controller and I/O unit, but both come with a custom-built PC and a copy of the Soundscape DAW (SpotFire sits atop this).

### In The Beginning

SpotShot is the starting point. It would typically run on a laptop or satellite system so you don't tie a studio up. Additional SpotShot licenses will be available so multiple translators or remoters will be able to contribute. SpotShot is where you can spot dialogue, import scripts, and prepare recording sessions, with video-synchronised floating text, and project-specific set-up. If the job requires characters on particular tracks, then this can be prepared before the session. The mute matrix, can be set up before the session as well. This allows mute settings for pre-roll and take, for each channel. Attenuation is in the works.

Script import can currently handle any text file or comma-separated text file (File Maker or Excel exports, for example). The basic script format is a character name in upper case, line break, script text, line break, then on to the next character. SpotShot provides filtering and other functions to make the script easier to follow, and provides an analysis (word/line counts, durations, appearances, and so on) so sessions can be planned/budgeted more easily.

### Session Player

Once the lines have been spotted and the session set-up, it's on to the session. SpotFire is essentially a plug-in for Soundscape, but you the user doesn't need to worry about that. Indeed, the turnkey system comes with shortcuts to open SpotFire or to open Soundscape as a standalone DAW. Recent Soundscape developments have helped greatly with the development of SpotFire, such as direct export to (or, indeed, import from-) Pro Tools or Nuendo via the integrated SSL ProConvert technology.

SpotFire helps run the session proper with a simple rehearse–record–review process, run off one button for each so the operator can pay more attention to the performance. Touch rehearse; If the Director and actor are happy, press Record – it jumps to the pre roll and records. If it's a duffy, just hit Record again... No waiting.

VisionCue runs alongside all of this. It has two main views – one for the Control Room, and one for the artist, configured independently depending on what requirements (timecode and text placement, even putting script text on a separate screen completely, are among the options). VisionCue will natively play a large range of video files, and its realtime engine allows script changes to be made on-the-fly, with those changes appearing on-screen immediately. That is, if a line isn't working, double click it, change it, then hit Rehearse or Record. Currently there's no change list maintained with the script, so the operator would have to save a copy of a session in order to keep the original for later reference.

**From The Manufacturer:**

**"We have high hopes for ScreenSound ADR, and the excellent initial industry response to the system strengthens our belief that it will be a great success. The key to that confidence is that there are a number of elements to the system that offer genuine potential to significantly speed up and simply workflow for studios. The system reduces DAW session preparation time and video preparation time, and anything which can save time and money has the potential to be a winner.**

**Dan Duffel, Head of Marketing, Solid State Logic**

### Conclusion

ADR, Foley, and the time-precious local language dubbing markets are moving feasts, with several different standard solutions, as well as a few non-standard ones; plus many protocols for the session workflows and set-ups as well. ScreenSound ADR looks like it could cope with anything. It's yin and yang: detailed prep work and workflow options, versus the incredibly simple realtime session management that will keep studio time down and creativity up.

### Information

- **SpotShot spotting software**
- **SpotFire ADR/Foley recording session software**
- **VisionCue Multi-screen HD video playback/cue system**
- **SSL Nucleus I/O and control**
- **Complete system, including PC**

**Manufacturer**
**Solid State Logic**
**www.solid-state-logic.com**

**Price Details**
**UK: £TBA**

**THE REVIEWER**
**PAUL MAC is the Editor of *Audio Media* magazine.**

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# In The Rack

**The digital revolution was supposed to be the end of the analogue rack unit… Not a bit of it. The analogue world is still going strong, with some manufacturers even reporting increases in analogue sales. This has been helped by the growing 500 series market, as well as a popular return to some audio roots.**

## EXPERT *Witness*

### Long Live The Rack

KMR's Keith Malin sums up the current analogue market, what really counts in analogue gear, and what the future might hold.

Perhaps it was as much as twenty years ago, when the digital revolution in recording was really getting going and computers were placed at the heart of every new studio, the common belief was held that not only would software based systems act as the new multi-track recorder, but do everything else as well. Software was the future and it would replace every element of the studio, apart (maybe) from the microphone and the speakers. Back then, very few of us thought that hardware analogue processors had much of a future.

KMR opened ten years ago, at a time when we thought this belief had been comprehensively dispelled. We could see that rumours of analogue outboard's demise were greatly exaggerated, and in fact it was becoming more popular than ever. And in 2012 we've sold more analogue hardware than in any other year, and this shows no signs of slowing.

What is the cause of the phenomenon? I believe it is two-fold. First, however good software and digital devices are, however brilliant they are at doing a multitude of tasks quickly, efficiently, and recallably, they simply cannot re-create the magic, the essence, the 'something' that analogue gear can. Without wishing to debate the scientific basis of this assertion, this view is based on what our clients not only tell us, but spend their cash on time and time again.

The modern studio is now a happy marriage between the efficiency of software-based recording, and the sonic flavours that only analogue gear can bring. Second, the very prevalence of software and its inherent relative low cost has freed up budgets so that serious analogue gear can now be part of even the hobbiest's home studio. With more processors being made by more manufacturers than ever before, and without the need to buy huge tape recorders and consoles; quality mic-pres, EQs, and compressors are now more widely sought than ever before.

It's no wonder that what the successful modern processor offers is to complement the software based studio.

#### Input Is Key

Because the source is always key to a great recording, getting that signal recorded well means mic-pres and channels strips are the most popular items of analogue equipment. Unless someone is involved in purely electronic music (and even then mic-pres are often used to impart character and tone to synths and even full mixes), every studio requires a microphone and behind every microphone lies a mic-pre. There are hundreds of genuinely wonderful and versatile mic-pres out there, offering every kind of sonic flavour you could want, and many that offer several sound characteristics in one unit. Most manufacturers make their own pre (and not just a copy of the 1073), with their own design, and pretty much all boutique-made pres (and outboard for that matter) are, these days, genuinely high quality. Many pres now offer tone shaping controls, such as harmonic distortion. The new Dave Hill Designs Europa 1 is an excellent example of this. Using digital control, this pre-amp offers a huge range of sonic possibilities, giving the user control over slew rate as well as odd and even harmonics.

Of course there's Neve, API, and SSL pre-amps, which stamp their sonic opinion with much familiar and loved ubiquity. Offerings from manufacturers such as Shadow Hills, A-Designs, Avalon, Crane Song, UA, and dozens more demonstrate the range available, and, as mentioned before, are all of a high quality. Because there is so much choice, and because it is all typically good, clients often worry about the sheer number of options. The current mindset is to try everything out there, sometimes dozens of pres. Whilst there's nothing at all wrong with this, and end-users really do need to make sure a unit is right for them by trying it first, I do think there's little to worry about. Most pres will give you a world-class result. If you narrow down the choice between clean or transparent, and fast or slow, then pretty much anything will do a great job for you.

Two schools of thought seem to exist regarding recording signals. One says that getting a good, big, clean signal 'to tape' (to DAW) is key for manipulation later, whether by plug in or more analogue processing. The other states that as finished an article as possible is key to a good recording, with everything else in the mix being made to fit, so judicious use of compression and EQ should be used to achieve this. Compression is usually considered more important, as this can make your convertor perform its best by getting the biggest signal to tape. EQ is more controversial, but experts at EQ'ing before tape can produce bewildering results. Either way, whatever works for you and your track, it can generally be agreed that it's very difficult to fix a badly recorded mic signal in the mix. It's so key to everything else, that if deciding what to spend your hard earned cash on, a world class pre or channel strip is usually the right unit to tackle first before anything else.

#### The Future

Now the debate as to whether software will replace analogue outboard has gone away (perhaps only for now, perhaps forever) it strikes us there is still a revolution to be had, and one manufacturer in particular is embracing this cutting edge with a world's first. The modern studio is a hybrid of digital efficiency and control, and analogue character. Now these two elements can exist in a single processor. Bettermaker is a new brand from Poland, and with its EQ232P you get a world-class analogue parametric EQ with Pultec circuit that is fully controlled digitally. You can store your EQ settings, A/B different settings, and even control and save your EQ dynamically from a plug-in. This surely is the future of analogue outboard, marrying the two pillars of the modern studio effortlessly with no compromise on quality.

KMR

This month's Expert Witness, Keith Malin, is the Managing Director of KMR Audio, a UK-based professional audio dealer and distributor that has made quite a name for itself in the analogue gear market, but specialises in every aspect of the studio including acoustics, software, wiring, outboard, furniture, microphones, and monitoring – from pre-purchase conceptual chats, to presenting a fully functional and bespoke studio.

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>

# Rack Stack

It is somewhat of an irony that, in a world where software emulations of classic processors are readily available, the release of traditional and innovative audio hardware seems to show no signs of drying up. From preamplifiers to processors, mixing desks to summing amplifiers, those looking to add a little warmth and quality to their sterile digital creations, either in traditional racks or the API 500 format, need look no further than the products described in this Tech Focus.

1

2

3

[1] SPL has released thirteen new units as part of its Analog Elemental Series. Consisting of a series of pre-amplifiers, channel strips, and various processing units, these are combined as a series of six modules, allowing the user to have a Premium or Preference two-channel pre-amp or a single-channel pre-amp perfectly matched with processors like a de-esser, the DynaMaxx compressor, the TwinTube processor, or the second generation iteration of the company's legendary Transient Designer. For those after processing only, combinations could include a de-esser combined with a DynaMaxx or two TwinTubes, for example. SPL's brief was that of 'a selection of modules offering an elemental collection of combinable analogue components for music production' – hence the name of the series. Some of the modules were developed from scratch for the Elemental Series (such as the Premium and Preference pre-amps and TwinTube,) while other products from the company's range were enhanced and adapted to fit into the modular concept (such as the second generation of the DynaMaxx, Dual-Band De-Esser, and Transient Designer processors). "We now have the exceptional pre-amps of the RackPack modular series in the traditional 19-inch format," says SPL CEO Hermann Gier. "This series offers perfect front end and processing combinations for any situation ranging from pure pre-amplification to specific processing needs for vocals and instruments. This allows for any possible configuration to be chosen." The prices have not been announced but SPL will be demonstrating the Analog Elemental Series along with its other products at the 2013 Musikmesse in Frankfurt, Germany.

**www.spl.info**

[2] Though many may lust after one of Rupert Neve Designs' 5088 mixers, quite a few professional audio engineers now prefer to work 'in the box,' eschewing the traditional console. It usually becomes apparent to most however that, while workflow may have improved, sonically, that special something is missing. Which is where something like a summing mixer becomes an attractive option. The Rupert Neve Designs 5059 features input of 16 channels, each with individual level, pan, inserts, stereo sends, and master texture controls to provide easy integration with outboard equipment. Featuring the ability to provide two separate stem mixes, the Silk and Silk+ modes allow the engineer to fine-tune the harmonic ratio and tonality of each stereo send of the 5059. The mixer features Neve's custom transformers and true class-A topologies – which have been fine-tuned over a number of years to provide exceptional sonic performance and completely eliminate crossover distortion. The 5059 achieves a remarkable sonic purity, while also conveying the signature warmth and larger-than-life sound reminiscent of Rupert's classic designs. The 5088 mixer itself is proving popular, and is particularly appealing to those who need the highest quality even with low input channel counts, as the mixer is available with configurations that range from eight to forty eight channels and beyond.

**www.rupertneve.com**

[3] The ISA series of microphone pre-amplifiers from Focusrite packages the company's well-respected audio engineering in a rack or desktop format. The ISA series consists of channel

## 500 Series Update

[1] If you're a freelance engineer, it's highly likely that you'll want to have all your favourite outboard available in whatever studio you're working in. The bods at API took this requirement on board and created the 500 series 'lunchbox' format for that very purpose. Housed in a 19-inch rack that provides an integral PSU and connectivity, 500 series module don't need cases, power, or connectors, making them less expensive than their full-sized counterparts. But a lunchbox filled with some of these superb quality units can give the engineer the same range and quality of equipment found in most top end studios. As originators of the 500 series format, you'd expect API to be major players in the field, with a series of racks and processors that live up to the family's sonic reputation despite their diminutive size. The company's 500-6B lunchbox provides power and space for six module 500 series modules with D-sub and XLR connections and a handy carry handle on the side, while the 500VPR can accommodate up to ten 500 series modules. The 512c is a fully specified microphone pre-amplifier that delivers that classic API sound, while the 525 is a re-issue of the respected 1970's 'feedback' design – API even manages to pack an analogue VU meter onto the front panel. The 527 compressor/limiter is a VCA design that is similar to the company's famous 2500 mastering compressor, and two units can be linked for stereo use. The 550 offers API's classic three-band EQ in two flavours, the 'standard', and one based on Saul Walker's late '60s design. The 550b is a four-band version of API's EQ, while the 560 offers the classic API sound in a graphic equaliser format.

**www.apiaudio.com**

[2] Radial has taken up the baton of the 500 series format and run with it. The Workhorse is a range of 500 series rack units that sport either eight or 10 slots with an optional integral eight into two summing mixer, headphone buss, and up-rated power supply. Winner of a TEC award for technical achievement in 2012, the Workhorse series is supplemented by the Cube – a truly portable, small format lunchbox that can handle up to three 500 series modules. You can fill these racks with Radial's PowerPre solid state or PowerTube valve based microphone pre-amplifiers, or a Radial JDV-Pre instrument pre-amp. The Coil EQ is a vintage-style passive EQ, while the Komit is an 'old school' auto tracking VCA compressor/limiter. The PhazeQ is a phase alignment tool, which can be used for corrective or creative tonal control. Radial moves beyond the confines of the traditional 500 series processors with its X-Amp re-amper, EXTC Guitar effects interface, Tank Driver, which allows you to drive line levels into spring reverbs, the JDX guitar speaker simulator, and an Insert loop that connects directly to the Workhorse's mix bus.

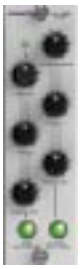
**www.radialeng.com**

## 500 Series

**[3]** JDK, API's spinoff company continues to release interesting and innovative modules in the 500 series format. The V12 compressor feature's JDK's patented 'thrust' circuit that the company says protects high frequency content even under aggressive compression settings, as well as the usual threshold, ratio, knee, and gain make-up controls. It's based on the JDK R22 stereo compressor, which itself a replica of the inline compressor found on the ATI Paragon series of consoles.
**www.jdkaudio.com**

**[4]** Squeezing classic AMS Neve hardware into the 500 series format can't have been easy, but the company has risen to the challenge with the 1073 microphone pre-amplifier and equaliser module – produced to the exact specifications of the original 1970s design. The module features three bands of EQ, with one fixed high frequency band; two switchable bands with cut and boost capability, and a high pass filter. And, the 1073 is designed to accept signals from a wide range of microphone and line sources.

**www.ams-neve.com**



**[5]** The EX-BB 500 brings Aphex's aural exciter and 'big bottom' technology into the 500 series format. A mono unit, it faithfully recreates the company's celebrated audio enhancement technology in the lunchbox format. The familiar frequency, drive, and harmonics controls are all present, and the high and low frequency enhancement can be defeated individually.
**www.aphex.com**

**[6]** AnaMod's latest 500 series module is the realios, A9052 EQ. Based on the Classic Dick Swettenham Design for Olympic Studios, it has transformer balanced high and low shelves, two swept mid range EQs, a two position high pass filter, phase, and true defeat. The original three-transistor make-up gain stage is coupled to a class-A transistor output stage. Also included are step-down/up I/O transformers that provide 6dB greater headroom than the 500 series voltage rails.
**www.anamodaudio.com**

**[7]** Audio Maintenance's 54F50 Compressor/Limiter covers three slots and utilises a Carnhill transformer – rich class A design. The fast and slow settings can be set via internal jumpers, and two units can be linked for stereo installation – or they can be ordered as a pair with a dedicated stereo/mono selector. Stepped controls and analogue VU meters should make the 54F50 popular in mastering circles.
**www.audiomaintenance.com**

## Rack Stack

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strips and a range of microphone pre-amplifiers that run from the single channel desktop – friendly ISA One to the ISA 828, which manages to squeeze eight individual pre-amps plus quality A-D conversion into a single 19-inch rack. The ISA Two, as its name implies, is a single 19-inch rack containing two ISA microphone pre-amplifiers. Each channel features an XLR output and mic input, line and switchable insert ins and outs on balanced TRS. The front panel sports TRS jacks for instrument inputs, phase, and variable impedance controls (Low, ISA 110, Medium, High), gain and metering, along with 48v phantom power. As you'd expect from Focusrite, specifications are impressive with up to 60dB of gain available.
**www.focusrite.com**

**[4]** Though a lot of people will think of Solid State Logic as purveyors of high-end audio consoles, the company has been busy expanding its range of products and now ships everything from dedicated signal processors and pre-amplifiers, small scale mixing solutions, DAW controllers, and various other post-production solutions – most of which feature SSL's legendary 'Super Analog' audio circuitry. Products such as the X-Desk and X-Panda are to be found in the project studios belonging to those who appreciate high-quality audio and the SSL sound in a small footprint format. If a completely SSL solution appeals, the company's X-Rack is a tightly integrated external rack that integrates into to these aforementioned desks, and enables you to build a system featuring the classic 'G' Series compressor along with other modules, such as E-Series EQ and microphone amplifiers, derived from their high-end Duality console and the AWS console/DAW controller. Add in MADI and networking products, the Alpha-channel channel strip, Duende native plug-in processors, and X-Logic I/O; and you have a company that provides high-quality solutions to be used in all levels of music and film and TV post production.
**www.solid-state-logic.com**

**[5]** Burl Audio continues to provide high quality digital and analogue conversion with the B80 Mothership, a multi-channel version of Burl Audio's critically acclaimed B2 Bomber ADC and DAC. Providing up to 80-channel capability of high-quality conversion via a card-based system housed in a heavy duty 4U chassis, the B80 Mothership has ten slots available that you can stuff with AD/DA cards each with two to eight channels of conversion on board all made possible using Burl's 'Backbone' high bandwidth backplane technology and its stable central master clocking. Audio quality is what you'd expect from the makers of the B1 microphone pre-amplifiers, with each ADC channel featuring a BX1 transformer, while every DAC channel has the latest Burl Audio discrete op-amps featuring the company's BOPA2 technology. Add on cards will be available to cover MADI, word clock distribution, and time code sync for film and video along with plans for film and broadcast grade "Black Face" cards, where channel density and price per channel are of greater concern. With a 250-watt continuous power capability, and +/- 24-volt rails, the Mothership has all the power it needs to make the most of the quality and amount of conversion available.
**www.burlaudio.com**

**[6]** Presonus' ADL 700 channel strip combines a high-end Class A tube pre-amplifier with a fully variable FET-based compressor and a four-band semi-parametric equaliser. The new channel strip provides separate balanced XLR mic, balanced XLR line, quarter-inch TS instrument inputs and a single balanced XLR output, 48v phantom power, and analogue VU metering. Featuring a single channel from famed tube-circuit designer Anthony DeMaria's award-winning design for the PreSonus ADL 600, the ADL 700 incorporates one 12AT7 and two 6922 vacuum tubes per channel, operating with ±300V power rails for maximum headroom and superb tone. The dual-transformer design ensures

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low-noise operation, with maximum common-mode rejection in an ultra-low-noise tube pre-amp which, Presonus says, results in a big, warm, smooth, clear, and distinctive sound. The ADL 700's FET-based compressor and semi-parametric EQ were designed by Robert Creel, the mastermind behind many of PreSonus' most beloved analogue circuits, including the XMAX™ pre-amp. With 73dB of gain available, the ADL 700 is bound to find its way into many a studio.
**www.presonus.com**

**[7]** Elysia's nvelop 'impulse shaper' is a 19-inch rack unit that allows you to take control over your audio's attack and sustain characteristics. Housed in the company's distinctive blue livery, the nvelop operates independently of the signal level. The Dual Band mode allows the user to adjust the frequencies of the attack and sustain of the audio, yielding excellent processing results without unwanted artefacts, even when utilised on complex material like a summing bus. Working either in linked stereo or dual mono modes, Elysia envisage the nvelop being used, for example, to accent tones in drum recordings to bring out or tame the attack, or to use the sustain parameters to control room sound so an instrument or a reverb tail can be made tighter by reducing its sustain – or can gain more depth by increasing it. The nvelop can be used on individual instruments or on complex mixes, and the dynamics sections can be bypassed allowing it to function as a flexible high and low shelf EQ.
**www.elysia.com**

**[8]** Universal Audio's 4-710d is a high quality, four-channel microphone and line pre-amplifier that features the company's unique tube and solid-state phase-aligned tone blending capabilities. The multi-channel pre-amp offers selectable 1176-style compression circuitry with specially tuned "fast" and "slow" settings on each channel, as well as four additional line inputs feeding eight channels of pristine analogue-to-digital conversion. Each of the four microphone pre-amp channels allows the user to adjust between a fully tube or fully solid-state signal path or blend between the two, while send and return jacks are available for external processing or signal access. Taking UA's expertise in hardware into the DSP arena, the Apollo is a high-end 18-channel audio interface featuring eight channels of microphone inputs that can also run the company's range of exceptional modelled plug-ins. The advantages of combining the popular UAD DSP cards and integrating them into an audio interface becomes readily clear when you realise you can utilise the plug-ins for real time input at recording.
**www.uaudio.com**

**[9]** Dangerous Music provides a range of products that cover the gamut of audio related tasks, including summing, monitoring, mastering, metering and talkback, and digital audio conversion. The company's two-buss summing mixers are well respected for their audio quality and simplicity of use, and the 2-Bus LT brings the cost down even further for project studio owners hungry to add analogue warmth into their digital mixes. The Monitor and Monitor SR/ST provide comprehensive monitoring solutions for stereo and surround respectively, while the Liaison Audio Neural Network provides sophisticated patching and routing for your audio equipment. The Master, as its name implies, is designed as a sum and router that offers stepped controls, insert loops, sum and difference processing, level offset, and stereo image width control that will prove extremely useful in the mastering room. For those with a smaller budget or less desk or rack space, the D-Box combines analogue summing, monitoring, and conversion in a single 19-inch rack.
**www.dangerousmusic.com**

**[10]** The Nightingale is the second of valve specialist Thermionic Culture's half rack four unit products, the first being the Freebird 3-channel valve EQ. The channel strip features twin microphone amplifiers, each with valve- based EQ and individual +20 dBu outputs on XLR. These mic inputs can be combined or sent individually to the Phoenix based vari-mu compressor. This section has its own input on balanced XLR that can be set to bypass the mic pre-amps, and also has separate outputs capable of +25dBu gain. Each channel features a phase switch, while the ability to have separate outputs from the microphone pre-amp and compressor sections provide great versatility in operation. There are bass and top cut controls, top lift and cut, Presence, Gain, a Hi pass filter, and the unit provides 48v phantom power. Thermionic Culture says that the company's 'Varislope' EQ curves provide 'heavy bass and glistening tops' – a sound they maintain is unobtainable without valves. So it's a good job the unit is full to the brim with them!
**www.thermionicculture.com**

**[11]** The Midas XL48 is a one unit high 19-inch rack that features eight of Midas' clean and well regarded microphone pre-amplifiers, complete with swept high and low pass filters, eight Midas XL8 A-D converters, and a super-low-jitter 1ppm clock – which can be set to external wordclock or to an internal clock operating at 96 kHz, 88.2 kHz, 48 kHz, and 44.1 kHz. The XL48 has eight-segment LED input meters, individual phantom power, a polarity invert and a -20 dB pad for each channel. All inputs are via Neutrik XLR and 25-way D-sub for incorporation into existing set-ups. The XL48 also features both analogue and digital outputs in ADAT (on TOSLINK connectors) and AES/EBU format (on D sub), and all five outputs can be used simultaneously turning the XL48 into a multi-function analogue to digital microphone splitter.
**www.midas.com**

**[12]** Shadow Hills sells a range of useful boutique audio processing tools for use in both the tracking and mastering of audio. Its range covers compressors such as the Mastering compressor, microphone pre-amplifiers, and power supplies all with a vintage bent and many available in the API 500 series or

a half-rack format. The Equinox is a two-unit 19-inch rack, featuring two of the company's GAMA mic pre-amps, thirty channels of analogue summing, and a mastering-grade monitor controller. The GAMA pre-amps themselves (in single and quad versions) are Jensen input transformer balanced, while there is an on-board switchable selection of output transformers – Shadow Hills call them Nickel, Discrete (or Iron if chosen as an upgrade) or Steel. This flexibility gives the GAMA pre-amplifiers several tonal flavours without resorting to EQ or distortion. Gain is via switchable attenuators, and each channel features phantom power, phase reverse, a -20dB pad, and a direct input.
**www.shadowhillsindustries.com**

**[13]** Grace Designs has forged an enviable relationship for its clean sounding microphone pre-amplifiers, such as the two-channel M201 and eight-channel remote controllable M802, but the company also produces other boutique high-end audio products. The M9 series of products supplies high quality headphone amplification and includes the M903, M904, and M906 stereo and surround monitor controllers. The M102 opto-compressor is newly joined by its 500 series stable mate, the M502. The M103 is Grace Designs' first channel strip, which combines the company's M101 microphone pre-amplifier (which has enough gain for use with ribbon microphones) alongside a high Z input, 48v phantom power, gain and phase controls. This pre-amp is supplemented by a three-band parametric natural sounding EQ and an optical compressor, and two units can be linked for stereo operation.
**www.gracedesign.com**

**[14]** Looptrotter Audio Engineering's Monster compressor is an original processor designed for "sound engineers and producers who are looking for solid, stable, and saturated sounds." The compression stage 'stabilises' the signal before the saturation stage, and a corporation that the company claims emphasises the details of sound, brings it 'closer', and re-energises it. The saturation stage is tube-based, compression is FET-based, and transformer I/O is optional.
**www.looptrotter.com.pl**

**[15]** The Bettermaker EQ232P combines the analogue path of a great EQ unit with the recall-ability and automation available in your DAW. There are five filters for each of the two channels, including Pultec shelf sections. The unit has 999 presets available internally, as well the ability to save presets in your DAW. A USB connection allows you to use the EQ unit as a plug-in for either AU, VST, or RTAS platforms, and there are two additional parallel outputs for parallel processing.
**www.bettermaker.eu**

**[16]** The Lindell Audio 17Xs is a single-channel transformer-coupled compressor/limiter based around an FET design that incorporates features such as a high pass sidechain filter, dry/wet mix control (parallel compression), and high and low-pass filters design to "colour the sound nicely." Lindell says that the unit can be smooth or that it can be a "rock'n'roll monster" depending on how you use it. Other features include five-step controls for attack, release, high pass filter, and ratio, plus a hardware bypass switch.
**www.lindellaudio.se**

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## 500 Series

**[8]** Chandler's Little Devil is a bright red 500 series FET compressor that utilises transformer balancing and an all-discrete component build. The Curve control gives the user the choice of both zener and germanium diode knee responses, and a Mix control means that parallel compression set-up is a doddle. A variable side chain filter and true hardware bypass is provided, along with a three ratio settings and attack and release controls.
**www.chandlerlimited.com**

**[9]** The Millennia HV-35 is a transparent uncluttered microphone pre-amplifier with a continuously variable gain control, 80Hz rolloff filter, a 15dB pad, and 48v phantom and phase controls. A front panel instrument input allows the unit to handle line level signals, and there's a DC coupled ribbon microphone with 10dB gain boost setting.
**www.mil-media.com**

**[10]** SafeSound Audio's latest 500 series unit is the P501, channel strip with choice of mic, inst', and line ins, and a compressor optimised for vocals using SafeSound's multi-stage sidechain peakride system. Threshold, Ration, and Attack controls are supplemented by auto gain make-up and release. The P501 also features a limiter, LED bargraph meter, and balanced outputs.
**www.safesoundaudio.co.uk**

## EXPERT Witness

KMR

The 500 series is an attractive proposition in value, convenience, and sound. KMR's Keith Malin explores the virtues of this modular phenomenon created by API.

It can be argued that the home recording revolution happened when some bright spark realised they could break up a mixing console into its constituent parts and sell these bits as 'outboard'. That allowed users to record in more locations other than the traditional studio. It also allowed a much richer sonic palette to be available to engineers and producers.

Apart from the major recording studios the console is now, more often than not, a hub for connecting outboard to. In many cases, there is no console at all, just analogue processors, convertors, patchbays, and a DAW.

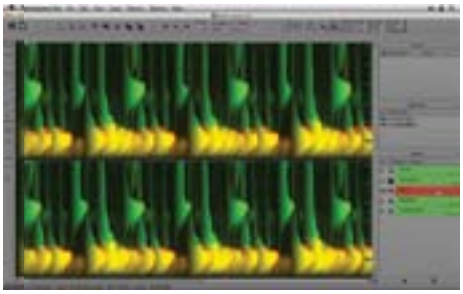
A smaller but similar revolution happened a few years ago when the bright things at API decided to open up their very popular 500 series format to the industry. Whilst the 500 series in concept is actually taken directly from API's console line, this has led to, not quite a replacement, but certainly an augmentation from pure rack processors to power supply-less modules. Because the power is already provided, and because the modules themselves are small, these modules are much cheaper than their rack-mount brothers and sisters. Now you can have a Neve mic-pre, an 1176 style FET compressor, and API EQ all in the same housing for a fraction of a cost these processors would cost as rack units. This has opened up serious recording to even more people and increased the sonic palette available.

Pretty much every process is available for the 500 series. 1073 mic-pres, tube mic-pres, FET compressors, even Fairchild compressors. All sorts of EQ, parametric, graphic, even pultec circuits. Then there are filters, headphone amps, de-essers, even convertors available in this format.

The 500 series format does have some disadvantages though, which will mean it certainly won't completely replace traditional rack outboard. There is a power limit, which is part of the deal when using a single power supply to power so many processors. So the units can often not perform as well as their rackmount counterparts. And due to their size, they often can't have the same circuitry or, indeed, features as their elder brothers. So, there are compromises to be made. However, these compromises are for the most part accepted due to the fact they are usually used as additions to already well-stocked racks. And with thousands of empty 500 series slots out there, this looks set to continue for some time now.

"SpectraLayers Pro has some built in intelligence that helps when you are selecting and drawing frequencies – if they are well defined, it makes a pretty good fist at estimating what you're trying to grab."

Stephen Bennett



# Sony SpectraLayers Pro

## Audio Spectrum Editor

**One of the questions** I most often get asked in my role as an audio engineer (apart from 'can you add more spice to the snare drum?') is; 'Can you remove the vocals from this Rihanna/Lady Ga Ga/Adele song so my daughter can sing over it and enter *X Factor*?' Obviously (after I stop laughing) the answer is invariably no. Although you can use various tricks and sometimes get close, the great unwashed appear to be under the impression that we can focus in on a specific sound in a mix and extract it at will. Hey, why don't we go nuts, and have our wicked way with the audio we've extracted? Impossible, right? Well, perhaps not...

### Breaking It All Down

For a while now, it's been possible to generate a display of the frequency content of an audio file as well as its amplitude, however separating and extracting (rather than just removing) these frequencies has been all but impossible. Though several companies have produced programs that have attempted this feat, the results have usually been pretty uneven. Sony recognised the potential of SpectraLayers (developed by Divide Frame) and has helped develop it to this point. Audio can be loaded into the program, displayed as a spectral graph, and frequencies defined, extracted, then given their own layer – much like layers in Photoshop, or even tracks in a multi-track – a kind of reverse enginering for sound.

While amplitude display is simple and comes free with every Digital Audio Workstation (DAW), representing the frequency spectrum of audio as visual data is no trivial task. If you want to change the level or dynamic range of the audio, modifying or compressing the Y-axis is a relatively intuitive procedure. But frequencies are more complex; they overlap and intermingle and have variable harmonic content. SpectraLayers Pro displays the audio as a frequency versus time graph, which produces a visual representation of how the frequency content of your audio is spread out over time. Audio is displayed in green with the Y-axis displaying the frequency range of the audio, while the more prominent frequencies appear as a lighter green. This generates a complex and potentially confusing display when loading in real-world audio files, so for my investigation, I created some simpler ones to get my head around the workings of the software. For example, Fig 1 shows an audio file with a simpler harmonic content. SpectraLayers Pro can handle most of the common file formats, including MP3, and can cope with many different sample rates.

Fig.1. Audio file with simple harmonic content.

Here, the left channel ('0') consists of three sine waves at 1kHz, 5kHz, and 10kHz, while the right channel ('1') is a square wave with a fundamental frequency of 1kHz – you can see the harmonics typical of a square wave at 3khz, 5kHz, 7kHz, and so on. If you click on the Graph icon, a smaller window opens up and the cursor changes to a dropper. Using this window, you can hone in on specific parts of the frequency spectrum and display various parameters along the Y-axis, such as Power dB, Power Value, Phase Radian, Phase Degree, or Relative Phase Velocity – some of which are quite esoteric, but give you a range of options to help you better understand the relationship between what you're hearing and how that relates to its visual representation. The X-Axis can be configured to display either time or frequency – you can see the display of the (almost) sine wave in Figure 2

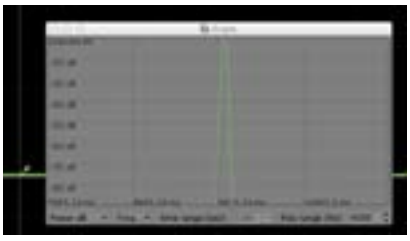


Fig.2.Using the Graph window to display frequency content of a file.

When you come to analyse a more complex audio file, SpectraLayers Pro offers various tools to help you locate and visualise the areas of frequency you are interested in extracting. The spectral display can be visually enhanced by adjusting gamma, contrast, and zebra pattern threshold controls – all of which can have an effect in separating out the different frequency content on screen. Zoom controls allow you to get close up to your audio and can be set to zoom in on just the frequency (Y-axis), the time (x-axis), or both together. Once you have the portion of the display you're interested in at the right zoom level, you can start extracting parts of the frequency spectrum.

### Layer Cakes

SpectraLayers Pro, as its name implies, allows you to extract parts of the frequency spectrum >

**THE REVIEWER**
**Stephen Bennett has been involved in music production for over 25 years. Now based in Norwich he splits his time between writing books and articles on music technology, running his own Chaos studios and working in the Electroacoustic Studios in the School of Music at the University of East Anglia. He's also a filmmaker with several music videos and short films to his credit. www.stephenjamesbennett.co.uk**

> into separate layers that can then be modified, saved, or recombined with the original mix. You first create a new layer, which automatically solos itself and enables several extract tools to the left of the display. These allow you to extract, by drawing on the screen, frequency, and spatial position from mono or stereo audio, noise, and audio with associated harmonics. Once selected, the cursor changes to a target, which you then drag over the parts of the display and thus define the audio you wish to extract. Pressing the tab key auditions the selected audio.

A key concept in all of this is the noise print. You can define a spectral 'signature' through careful use ofthe availble tools, complete with independant frequency bands, and then use that signature to filter subsequent selections. Using, say, the area tool with a noise print defined means the area tool will only select audio that is demed to be part of the noise print.Very clever.

The frequency tool allows you to select very narrow frequency ranges and the noise tool allows you to move noise from the complex mix to individual layers. When using the harmonic tool to select a frequency, it also automatically selects any related harmonics.

Each tool has several parameters, such as the spread of frequencies affected and threshold levels along with others specific to the tool chosen. As soon as you draw on the spectral display to select your frequencies, that part of the display turns yellow and these selected frequencies are copied automatically into your new layer. SpectraLayers Pro has some built in intelligence that helps when you are selecting and drawing frequencies – if they are well defined, it makes a pretty good fist at estimating what you're trying to grab. Layers are displayed on the bottom right of the screen and can be deleted and renamed as you wish, while the small speaker icon allows you to select which layers (or mix) you are auditioning when you click on the Play button. You can also 'solo' the individual layers visually, so you can more clearly see what's been selected.

Fig.3.
Displaying just the extracted frequencies.

Once you have the frequencies extracted, you can use the modify toolbox to further edit your audio. Probably the most useful are the eraser and the various tools available to adjust amplitude, frequencies, and harmonics; but being able to add noise and copy and close sections of layers and paste into others may also be an advantage.

A selection tool allows you to select frequency or time only or both together to define an area of the display you want to modify. These tools make the deletion of unwanted audio and the modification of what's been extracted a relatively trivial task. Now that we have a copy of our extracted audio in a separate layer we can remove this audio from the mix itself. All we need to do is make sure all layers are sounding by clicking on the background of the layer list and inverting the phase of the extracted layer by selecting on the '+' icon next to it in the layer display. And voila! That layer's audio is removed from the mix, phase cancellation doing its eternal and ethereal job. This phase cancelled audio is then visible in the spectral display as an ominously black nothingness.

The levels of each layer can be adjusted directly and non-destructively – which is useful if you need to make the extracted audio more or less prominent than in the original mix. This could be useful, for example, when you need to create a bass or vocal 'up' version, but only have a final mix available; or if you want to reduce the volume of particular background noises but not actually erase them completely. Layers can be saved as individual audio files or merged with other layers.

SpectraLayers can be used as an external sample editor in a DAW that allows such functionality; so processing audio in situ becomes a possibility. The program also has some facilities for generating noise and other synthesised frequencies and can process audio using VST plug-ins. I initially loaded SpectrLayers Pro on my ancient 2007 Macbook Pro and it struggled a bit – but was smooth as a button on an 8 core Mac Pro, so the more CPU power you have the better. The program runs on Windows and Macintosh computers under a fairly wide range of operating systems, and authorisation is by serial number – but Sony provides a 15 day limited functionality demo version so you can try it before you part with the readies.

**Extracting The Michael**

If you've skipped straight to the conclusion, you might want to know if you can just load in the latest funky number from a pop princess, automatically extract the vocals and replace it with your wailing offspring's tonsil treatment? Well, the answer, as you may expect, is no. The success or otherwise of extraction depends on both the content of the audio file being processed and how usefully it is displayed. I had great success removing clicks and pops from a vinyl recording and various noises from an on-set location recording. The results when extracting the voice from a track with just piano as accompaniment was encouraging, while removing bass lines from Steely Dan recordings and replacing them with my fumbling efforts was more successful than I'd hoped for.

Experiments with other material were more hit and miss – however, learning to 'read' the spectral display improves with experience and by the end of this review period, I was starting to quickly recognise the patterns formed on the spectral display by different instruments within complex mixes and my skill at extraction improved markedly over time.

As it stands, SpectraLayers Pro is the most flexible and sophisticated frequency separation program I've tried and will find use in all manners of audio environments – especially in the world of post production. The idea that any recording has the potential to be a multi-track is exciting, so I'm looking forward to seeing how the program develops over the coming years and would like to see more automatic functions, such the ability to select the same or similar frequency spikes for clearing clicks and pops, incorporated in the program. Oh, and if it could recognise instruments and lyrics automatically, I'd be over the moon thank you very much...

SpectraLayers is a pretty amazing piece of software as it stands and gives us a tantalising glimpse into a future where the answer to the question posited in the introduction could finally be "yes."

God help us all.

**From The Manufacturer**

**"SpectraLayers introduces an innovative and unique workflow that redefines what can be accomplished in the professional audio editor's suite. The level of editing precision and advanced capabilities SpectraLayers offers makes it an essential tool for industry professionals who demand the deepest audio analysis tools."**

**Dave Chaimson,
VP Global Marketing,
Sony Creative Software**

## Information

**Feature Set**
- **Smart Editing Tools**
- **Layer to layer copy and paste**
- **View, modify, and draw tools**
- **Three-step audio extraction**
- **Noise reduction**
- **Windows Vista/7, or Mac OS X 10.6 or above**

**Manufacturer**
**Sony**
**www.sonycreativesoftware.com**

**Price Details**
**Download from US$374.95**

"There is something lovely about the sonic change in the tiniest of details as you drive the channels. Pushing level into the mix buss and adjusting the master output produces more of that lovely sheen, its transformers blending in a lovely musical flavour to the tone…"

Alan Branch

# Rupert Neve Designs 5059

Satellite Summing Mixer

**Rupert Neve Designs** has added something new to its classy Pro Audio range, the Satellite 5059: a 16-input, dual stereo output Summing Mixer. Borrowing design elements from its illustrious 5088 mixer and Portico II channel and bus compressor, this rack of Neve magic is a lovely addition to the studio line up. So, whether you're fitting out your production room or a home recording set-up, there is something to choose from the Rupert Neve Designs range.

The Rupert Neve name is synonymous with sound quality and excellence of circuit design. His creations have helped many producers and engineers capture, shape, and produce some of the greatest sounding records of our time.

### Summing mixers V's In The Box (ITB)

There has been much debate about the pitfalls of mixing 'In The Box', and whether analogue summing is better than digital summing where a mix is concerned. To determine this, there have been many published shoot-outs between mixes and mixers comparing their desk versus ITB work.

So I'd like to put a few things on record, as far as I am concerned, about this controversial subject. I say there is absolutely nothing wrong with mixing purely ITB with most of today's DAW software; there are no real limitations or summing flaws, but there are differences. In the classic sense of mixing, analogue signals in a conventional mixer are affected all the time – op amps, transformers (any components, in fact)… These can all add harmonic distortion and other elements that we find pleasing to the ear.

Summing digital signals within a computer is all about the maths, combining all the ones and zeros. This is an exact form of mixing with nothing added to the signal path. While the ITB internal floating point mixer can have hundreds of dB's dynamic range it has no headroom in the classic sense. A typical DAW has 0dB headroom, and beyond that, clipping will occur that won't be nice at all.

But having said that, if you had plug-ins that induced the same qualities as analogue hardware, such as Waves NLS Summing console emulation or Slate Digital's VCC Virtual Console Collection, then you can achieve similar results. So, it's just a different way of working. Great results are achievable with ITB – you just might have to treat levels with a bit more care and select useful plug-ins if you want to achieve a similar analogue sonic quality.

A big factor in Summing vs ITB might also be controllability – having actual hardware like a mixer means more hands on control. The tiny adjustments you do instinctively with your hands on faders as you listen will help more than anything to achieve a great mix. One of the first things I learnt as an engineer is to get the balance right – it's no good having great sounds if you can't hear the vocal or drums properly!

Now that's sorted, we can look at the Rupert Neve 5059 suming mixer baggage-free.

### In Detail

The 5059 is a 2U 19-inch rack unit, decorated in RND's uniformed vintage white faceplate – a solid 0.22-inch aluminium plate mounted on the front of a heavy steel shell with magnetic screening. Like all the other Rupert Neve Design units, this box is impeccably constructed.

Laid across the front in left to right order are two rows of input controls in two banks of eight. Each input has channel level rotary faders going from infinity to +10dB, pan control, an insert switch, and a stereo 2 send for routing to the alternate second output.

The first thing you notice is the solid machined construction of the knobs – no cheap off the shelf plastic being used here. Also, you'll notice that the levels have dB level markers, although have no indent at 0dB. I really enjoyed discovering this because it said to me that Rupert knows how studios work, and how people use their gear. To enable a useful recall of a mix, any outboard gear has to be set exactly the same – something that can be quite hard to do, especially due to the inexact marking of a unit or the variances of any continuous potentiometer (pot), so to help this you can calibrate your outboard hardware with a tone to unity gain. That means that what you put in is that same as what you get out. You don't touch the level controls, so any ident on the level control could interfere with this set-up process. A lot of engineers I know work this way, and would be the way I would use this in a mix studio set-up.

At the far right of the Satellite are two stereo output controls, both of which are supplemented with a texture control and a silk selection switch. The dual outputs are somewhat different to most summing mixers, this being purely for alternative configurations: maybe sub groups or stem mixes, routing to a second Satellite unit, or even to use the other output to utilise the other texture /silk control and route back into the main stereo output.

There are also level indicating and power LEDs. The rear has a power socket for RND's own universal filtered low noise switching power supply, while inputs are via D-Sub connectors in banks of eight, as well as four D-subs for the send and returns of the inserts. Note that these inserts are always sending, and only replace the input signal once activated. This means they can be used for aux sends for separate effects or setting up compressors, recorders, etc. Lastly output is via balanced XLR for both stereo outputs.

### Silk/Texture

Now this is where Rupert's magic really happens for me… yes, the mixer is fully class-A with >

**THE REVIEWER**
Alan Branch is a freelance engineer/producer and ex-member of the On U Sound Crew. His long list of credits include Jamiroquai, Beverley Knight, M People, Simply Red, Depeche Mode, Shed 7, Sinead O' Connor, Bjork, and Sade. www.alanbranch.com

custom transformers. RND has perfected the Neve circuit design for many years, refining out all the unwanted artefacts such as noise, slew rate, and high frequency distortion. The Satellite Silk feature uses negative feedback on the output transformer to enhance harmonic content and change the way the distortion character of the mixer performs – this is very reminiscent of Rupert Neve's vintage designs in classic consoles.

There are two circuits, both depicted by the colours Red or Blue. Red is used to enhance the highs, and the blue to enhance the lows. This Silk feature is found on their Portico range, and is one that I have used many times with my own Portico 5012 dual mic amp. It has produced some stunning results, so yes – I am a bit of a fan of this circuit design.

### In Use

Set-up is simple enough with the right D-Sub looms. The pin out wiring is sensibly placed on the rear of the unit. I routed the Satellite inline from my Apogee Ensemble outputs, calibrated each level pot with a tone from Logic, and I was all set to go. This meant as I switched from song to song I knew my levels would always be the same – the only thing I had to take a note of would be the texture control. However, at the rear of the Satellite manual is a handy recall sheet showing a plain print-out copy of the front of the Satellite unit, ready for marking in various levels in case a recall of settings is necessary. Routing either stems or full mixes through the Satellite would be my main way of working, but it could be placed in a rack to take in a set of keyboards or outboard effects. With 16 inputs it could probably do both for most people! But as I noted earlier, the inserts are always sending so it can be configured for different studio set-ups: two 5059 units for example would provide 32 channels to mix down to four stems.

The effect of running mixes through the Satellite is not an easy one to explain; it's a subtle analogue effect, but its character is immediately noticeable. There is something lovely about the sonic change in the tiniest of details as you drive the channels. Pushing level into the mix buss and adjusting the master output produces more of that lovely sheen, its transformers blending in a lovely musical flavour to the tone – very smooth, but with all transient detail intact and low noise and distortion.

Selecting the Red Silk feature and winding up the texture control is where I thought this Satellite mixer came into its own, adding saturation and character. The Red Silk adds a lovely crispness to instruments and vocals, all the high end 'Ear Cookies', as I like to call them, within a mix became more apparent and glossy. Now, don't mistake this feature for EQ; it's very different to that. Red Texture helps create a more natural feeling of enhanced high frequencies. Selecting the Blue texture enhances the bottom end of a mix, which felt like classic Neve warmth at it's best. This is why people choose to mix on these consoles: because the track comes out fat and warm. Instruments came through the Blue texture with a larger imprint in the mix, and drums and bass appeared more whole and complete with a lovely roundness and size.

Having inserts on the Satellite is a lovely addition as I have an old Chiswick Reach valve compressor, so this is perfect for me to output a mix or stems, insert my outboard compressor, add some texture, and route it back to my audio interface to record the master back into my DAW.

### Summary

The Rupert Neve Design Satellite 5059 Summing Mixer is well made, well designed, and well featured – in fact everything you could want from a summing mixer to help with creating high quality richly textured stems or mixes, or simply as a rack mixer for superior channel returns in a neat package.

Add to this the heritage and unique transformer circuitry that will herald lovely sonic texture and colourisation, and it's a brilliant addition for anyone serious about their music production.

**From The Distributor**

**"Our intention with the 5059 was to give the user as close as possible the sonic benefits of mixing on our 5088 or one of Neve's vintage designs. Careful attention was given to the interaction of the gain stages so that you could mix into the two busses for a wide range of tonal benefits. This is the first of a new family of products from Rupert Neve Designs and one that we believe will stand the test of time."**

Josh Thomas, RND

### Information

**Feature Set**
- 16 x 2 + 2 summing mixer
- Individual level, pan, inserts, 2 stereo outputs, and master texture controls
- Analogue mojo in two modes

**Manufacturer**
Rupert Neve Designs
www.rupertneve.com

**Distributor**
Sonic Distribution
www.sonic-distribution.com

**Price Details**
GB£3,174.00 (inc.VAT)

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"One thing to me that separates Altiverb 7 from others is the sheer choice of quality sonic experiences. Between the studios, concert halls, clubs, churches, and caves, you'll find something to fit most every production."

Rich Tozzoli

# Audio Ease **Altiverb 7**

**Convolution Reverb Plug-in**

**There's nothing quite like** putting your vocal track into the Kings Chamber at the Great Pyramid of Gaza, your guitar into a Fender Super Reverb, or your snare into Bill Putnam's Echo Chamber at Cello Studios in LA. That is exactly what Audio Ease's Altiverb offers.

Back in 2001, Altiverb was the first convolution reverb plug-in with real sampled spaces and hardware. Recently updated to Version 7, I was able to take it for a spin to check out some of its new attributes.

**Features**

I've been using Altiverb since the first version, when it pushed the Altivec processor inside my G4 Mac to the limit. Even back then, there was nothing else quite like having all these amazing rooms, churches, halls, and studios inside my computer, regardless of the drain. I remember having to print the sound of Altiverb on various tracks so it wouldn't eat up all my power, and it was worth it.

Obviously, times have changed, and v.7 barely touches the processor in my Intel Mac. In fact, Altiverb 7 XL runs as TDM, so the chips will do all the work. The XL version also offers 5.1-surround sound. Otherwise, you can run the native version in stereo (RTAS/VST/AU/MAS) at sample rates up to 96kHz. I put four RTAS versions across one track as a test, and it didn't push the CPU meter above 16 percent.

Altiverb 7 comes as either a 3GB+ download or a boxed version. I downloaded my update and had it installed and authorised within minutes. If fact, I even took notice of how fast and simple the entire process was, using only my email address. I didn't have to use any codes (that I inevitably forget); they basically streamlined it so the authorisation was dumped into my iLok account and, with a few clicks, I was cooking. Bravo for that bit of back-coding!

The new screen struck me as having a streamlined and striking look to it, with its black metallic facade. Thankfully, the most often used controls now sit directly on the front panel. You've got the large Reverb Time knob, as well as In/Out/Mix on the I/O section, Bass and Treble EQ, Low, Mid and High Damping, Pre-Delay and Attack Time, and Size and Bright knobs.

To start, I clicked on the new News/IRs/Presets tab, which informed me that there were new IRs available. Again, with just my email address, I was able to quickly download and install several new IRs (free of course), without even closing the plug-in down. That is very cool indeed.

Other new features include small drop-down tabs under the I/O, EQ, Damping, and Time sections. They allow for additional/deeper controls over such things as test sounds, EQ gain/Q/frequency, lo-mid and hi-mid crossover points, and even Reverse IR (that can make some really interesting effects for sound designers).

I would have to say my favourite new feature is the Browser. You can now choose your IR in several ways, either by clicking through the pre-sets menu or by clicking on photos in the free-floating visual browser. There are category headings for Music, Post, Gear, Design, User, and Favourites. Then the sub-categories break down under each, such as Concert Hall, Church, Studio & Scoring, Opera & Theatre, Stadium, Tomb, Club and Misc. under the Music heading. From there, they will then further break down to the individual IRs. It's an easy way to quickly find what you're looking for, and a major step up from v.6.

Also, clicking the new Similar button brings up similar sounding spaces to your current choice, so if you want a small wooden studio, it will suggest some in the browser window. You can also type keywords into the Search area, and I did just such a test with keywords such as Tile, Wood, Metal, and Tight. Sure enough, a handful of suggestions came up for each. From there, you can even further sort by Size or Name. Simply click on the selections to load them in. This is amazing for anyone who works in post production, but great for all kinds of searches.

The new Bright knob is unusual in that it's "an algorithmic synthetic reverb layer," which >

**THE REVIEWER**
**Rich Tozzoli is a Grammy-nominated engineer, mixer and composer as well as PAR's Software Editor. richtozzoli.com**

> adds a high-end EQ edge to the overall sound. However, it's not really EQ – just an artificial brightness placed over the real sound of the IR. For example, I ran a Tele part into Club Paradiso in Amsterdam. By turning up the Bright knob, it added a treble-y sparkle to the club. In fact, turning it back down made it almost seem dark... so proceed with caution.

The main window, which displays the image of the chosen IR, also features a few additional menu choices. They are Pictures, About, Preferences, Gated Verb, Positioner, Snapshots (Altiverb has total recall-ability so you don't really need them), IR Import, IR Info, Waveform, Waterfall, and EQ Curve.

The EQ Curve is useful in that it features Hi- and Lo-Shelf handles, as well as two parametric handles. Just grab and drag to adjust the EQ of the selected IR. To reset them to default, just Option-Click on each handle. The Hi- and Lo-Shelves are also reflected in the GUI when you turn the bass and treble knobs in the EQ tab.

I also find the Positioner useful. It lets you move the virtual speakers (therefore IR imaging) wider, narrower, closer, or farther away. It can be done one speaker at a time for a left or right-heavy sound (great for guitar), or you can select the Stereo Link Edit and move them together.

In the Gated Verb menu, you can apply a tempo-mapped gate to the reverb, with drop down menus for selecting the note values. Aside from that, one of the quirkier aspects of v.7 is the Drag-and-Drop feature of the IR Import. You can drop any audio into the Drag-and-Drop browser window and use it as an impulse response.

Also of note is that they make it fairly simple to create your own IRs. I have done a few, including one of the reverb in my 1962 Gibson Falcon amp. There's a great video on the Audio Ease website showing you just how to do it. It's a great way to capture that amazing space you keep wanting to use – you know – the room you whistle in and say, "now that's a great reverb!"

**From The Distributor:**

**Audioease Altiverb is already considered to be the best reverb plug-in on the market in terms of realistic natural reverbs and a vast and varied library. Being the pioneers of convolution reverb plug-ins they have an impeccable track record in delivering a reliable quality product, and one that they continually develop, never resting on their laurels. Audioease is a dedicated company in the pursuit of audio excellence be it for music or post production applications, and the new V7 visual browser makes finding the right program for the job even easier and quicker..**

Kevin Walker, Unity Audio

**Summary**

One thing to me that separates Altiverb 7 from others is the sheer choice of quality sonic experiences. Between the studios, concert halls, clubs, churches, and caves, you'll find something to fit most every production. But then there are the other unique treats, like the BX10 Spring Reverb, Yamaha REV7, Sony SDR1000 and, of course, a large selection of post production spaces ranging from a 747 cockpit to the interior of an Opel Corsa.

The upgrade to v.7 is free if you've purchased a previous version of Altiverb in 2010 or 2011. Otherwise, the Native version will run you US$595 and the TDM XL version (Mac only) running US$995. You'll need an iLok for authorisation, or they can get you one for US$25. Any way you slice it, Altiverb 7 delivers some of the finest reverb sounds available. It remains a top-flight piece of refined software and I highly recommend it.

## Information

**Feature Set**

- Record your own impulae responses or choose from library
- New UI look and feel
- New IR visual browser
- New 'Brightness' reverb layer
- New 'find silmiar function for similar impulse responses
- Drag and drop IR creation
- Chaos control

**Manufacturer**
Audio Ease
www.audioease.com

**Distributor**
Unity Audio
www.unityaudio.co.uk

**Price Details**
GB£540.00 (inc.VAT) – Altiverb 7 Native
GB£900.00.00 (inc.VAT) – Altiverb 7 XL

"The whole thing reeks of quality and robustness, key factors in making anything that's going to be used by journalists."

Jerry Ibbotson

# Yellowtec iXm

## Interview Microphone

**THE REVIEWER**
**Jerry Ibbotson has worked in professional audio for more than twenty years, first as a BBC radio journalist and then as a sound designer in the games industry, working on more than 30 titles. He's now a freelance audio producer and writer**

**I've been lucky enough** to test a stack of portable recorders for *Audio Media* over the last couple of years, from pocket sized machines to multi-channel beasts. Most of them are suitable for use in a range of tasks and are aimed at a wide audience. So it's been interesting to lay my hands on something that's very clearly been designed with one job in mind – audio journalism.

The iXm from Yellowtec is a portable audio recorder built around the body of an ENG microphone. It's a recording microphone, in essence. If you're thinking, "Hang on, that sounds just like the FlashMic, as produced by HHB Communications," then you're right. But HHB has stopped producing the FlashMic, and instead is importing and distributing the iXm.

My first impression was how much it looked like a beyerdynamic ENG mic. A closer look at the capsule revealed it was in fact made by beyerdynamic. That's a good sign. In fact the whole thing reeks of quality and robustness, key factors in making anything that's going to be used by journalists, among the clumsiest and most tech-unfriendly people on the planet. A slight exaggeration perhaps, but I can remember a colleague in my BBC days cycling over her own Minidisc recorder. Ouch.

Turn it over in your hands and you notice the general lack of knobs and switches. No multi-function menu-driven LCD screen, no rotary gain dials, not even an on/off switch. On one side of the mic body are the record controls: a Record button and a Stop button. That's it. On the other side are the playback >

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> controls: buttons for Play, Stop, Fast Forward, and Rewind. Flip it over and in the base of the iXM is the SD card slot and mini-jack sockets for headphones and an external input. There's also a USB connection and the battery cover for three AA batteries (in addition to the in-built Li-on battery). Even the latter is designed to be tough, being a screw cap rather than a flap.

The machine comes with a choice of microphone capsules. My review model had cardioid, hypercardioid, and omni. They simply unscrew and fit in the carry case for safe keeping. When you have the iXm in your hand it seems chunky and well put together. You'd certainly feel confident thrusting one of these into the midst of a media scrum, knowing it wouldn't fall/be torn apart.

The record gain is set entirely automatically; there are no levels to set and no meters. If that sounds like blasphemy, then remember that this is a piece of news kit. It can be safely held under the nose of a politician on the hoof without the reporter having to worry about technical stuff like levels.

To record material, you simply hit 'Record' and that's it. The instructions refer to the headphone socket almost in an 'if you must' manner, but I was taught to always monitor a recording no matter how clever the hardware. That way you will get to hear if you are picking up nasty stuff like mobile phone chatter or electrical hum.

There are various record formats available, from low bit rate MP3 to full flavour .wav files. My machine came set up to record a 48k wav. and the quality was excellent. To alter the settings you need to install the admin software package that gives you access to a whole bunch of functions, including the ability to add a prefix to every recorded file. So you could name everything RadioJerryFM_001, RadioJerry_002 and so on. This is something that the station/newsroom engineer is more likely to play with.

**In Use**

In general testing I found the iXm to be straightforward, well made, and capable of producing excellent results. I also showed it to a radio reporter I know and to a station engineer, both of whom are familiar with the old FlashMic (the reporter still uses one).

The journalist thought the new machine was heavier and more complicated. That is, to switch the unit on you press the Record button and Playback/Stop button together. Could that be forgotten in the heat of a press scrum? ...And total user feedback is the three LEDs.

The LED point was taken up by the radio station engineer. He asked the question, "How will the journo know how much recording time is left on the SD card?" At time of writing, when you turn the unit on, the MEM LED flashes to let you know status (one flash per hour remaining). During use it comes on to let you know it is full. Of course, this may be a bit too late?

**Information**

- Choice of microphone capsules
- AA and internal Li-on power options
- Removable SD card
- Mini-Jack external input
- Automatic Gain Control function

**Manufacturer**
Yellowtec
www.yellowtec.com

**Distributor**
HHB Communications
www.hhb.co.uk

**Price Details**
GB£700.00 (exc.VAT) – Yellowtex iXm
GB£830.00 (exc.VAT) – iXm Premium Line

**From The Manufacturer**

**"The Yellowtec iXm digital recording mic builds on the concepts that we found successful with the HHB FlashMic by adding features like interchangeable mic heads, removable media, a unique dual power option, and onboard LEA DSP engine. These, and a soon-to-be released iPad/iPhone app will make the iXm a very attractive option for broadcasters and reporters in the field."**
Matthew Fletcher, HHB

When we were talking about this review, *AM* Editor Paul Mac made the point that interviewees often respond better to a microphone shape pointed at them than a Taser-style square-box device, which is a good point.

Overall this is a clever, well-made, and rugged bit of kit, though users of the trusty FlashMic might take time to get used to it. AM

"The loudness meter is comprehensive while very clear – much more sophisticated and powerful than the metering journalists will be used to, and if they learn to use it properly… well, great things could happen."

Alistair McGhee

# Hindenburg **Journalist Pro**

Radio DAW

**Just when you thought** there wasn't any room in the world for another DAW, along comes a plucky new upstart that starts making waves. But instead of competing in the well stocked end of the pool, where music and post are what matters, Hindenburg is aiming for a much more sparsely populated niche: radio. Well, actually the ambition is for Hindenburg to major on story telling rather than engineering features.

Having badgered various manufacturers to do a native radio editor over the years I'm thrilled that a new start-up should be brave enough to launch an all-new product at times like these. Currently most radio (and think of a market that includes online radio and podcasting) is produced on either big networked systems like Dalet, VCS, RadioMan, etc, or on tools not designed from the ground-up for the job, like Audition, Wavelab, or – dare I say it? – Audacity. So it makes sense in one sense to pitch a product squarely at radio and broadcast production that cares not a whit for MIDI, SMPTE, or ADR.

### Down To Business

On start up, Hindenburg displays a clean modern interface singularly lacking the baggage of many modern DAWs that have been fighting the 'feature wars' for a decade or more. The layout is classic, with track headers on the left, four tracks ready for action, and at the bottom of the screen a classic transport bar with clipboards on the right. On start up, there are four of these arranged vertically, and they'll be familiar to journalists who have used RadioMan or other networked software as a handy place to keep your clips while working. Having multiple clipboards allows great flexibility in house keeping.

If you want to do something nasty to a clip now, but you think you might want the unedited clip again later, just control drag it to another clipstore. And, while the clipstores are project specific, you can have a pan project 'Favourites' to keep all your sigs, stabs, and stings in one place.

One really neat feature is the small play icon alongside every clip. Click on it and the clip plays from the top for just as long as you have the mouse button depressed. A simple thing, but it makes auditioning clips that tiny bit faster.

And if you want to hear the whole clip just hold down the shift key while clicking on the icon.

You can import audio into the clipboard(s) or direct into the playlist. I was impressed that Hindenburg imported my mp2 files that are tagged with the .s48 extension without batting an eyelid. Flac files, however, are currently not supported. Clips can be dragged in directly from OS (Hindenburg is available on Windows and OSX), or direct from iTunes, or from a CD. The CD import, like much in Hindenburg, is simple, easy, and elegant.

Clips in the Hindenburg playlist have the magic five adjustments: drag the out or in, drag fades from top corners or drag level up or down anywhere on the top of the clip. Dragging a range allows you to alter the level of a segment of your clip, and when you do that you have full control over the points at which the fades start and stop, as well as the levels of the plateaus inbetween. There is no adjustment for fade shapes, but as a journalistic tool, we can live without that. You can create crossfades on a single track just by overlapping clips.

Dropping a clip on a 'selected' clip replaces it, while dropping a clip on an unselected clip overwrites that portion of the clip.

### Levelling Up

One of the key design aims of Hindenburg is to help you get your levels right. Each project can >

Hindenburg effects.

**THE REVIEWER**
**ALISTAIR McGHEE began audio life in Hi-Fi before joining the BBC as an audio engineer. After ten years in radio and TV, he moved to production. When BBC Choice started, he pioneered personal digital production in television. Most recently, Alistair was Assistant Editor, BBC Radio Wales and has been helping the UN with broadcast operations in Juba.**

Chapterisation and images for iTunes enhanced AAC.

> have a loudness template (UK, EU, US) and optionally automatically adjust the level of every clip you drop into the playlist to match the template. Given that much time is spent (or maybe on the other hand, not enough time) in getting levels right, any useful help here is going to be much appreciated.

As a quick test, I dragged *Miss You* into the playlist (just my small revenge against the Smurfs) and quickly recorded a voice over. As I dropped in *Miss You*, Hindenburg took it down by 13dB, while my cheesy VO got a 5dB boost. I dragged a range over the length of the VO clip in the music, and ducked it under nicely. Hindenburg automatically put the 'shoulders' of the duck in, and when I hit play, it was a better balance than many I've heard from the news room's finest.

Hindenburg comes out of the box with four effects: a three band equaliser, a compressor and two meters, a loudness meter, and a BBC style PPM. The equaliser is a bit of a dark horse in that it presents you with three controls and that's it. Low, mid, and high frequency adjustment; however, you can click and drag the shape of the curve for more interesting shapes, and I must say I thought it sounded pretty good.

In the compressor someone has finally got it right: one knob, turn it clockwise for more, and back for less. Brilliant.

The loudness meter is comprehensive while very clear – much more sophisticated and powerful than the metering journalists will be used to, and if they learn to use it properly… well, great things could happen.

And, it's great to see BBC PPMs – they cheer me up and I would probably mix with these on all the time if I could. And now I can. As these metering options are applied on a track by track basis, you will need to add a master track to meter your whole mix. There is no mixer in Hindenburg, and to be honest, I don't think journalists will miss one. There's no volume curve on the tracks either, but you can group clips and then adjust the volume of the group while retaining any level offsets the group contains. Simple and easy to understand.

There's also an onboard voice profiler function, which allows you to profile a 'good' take of your voice and then apply it to a not so good take, to improve the quality. I wasn't so sure about this. It's profiles everything on the track, so you'll need to make sure it's only the material you want profiled on there.

On the other hand, the integrated Call Recorder with Skype connectivity is a boon for any working journalist, and with the ability to check all your Skype contacts and their online status direct from Hindenburg, this is a real crowd pleaser.

To round off the workflow, there's the output side. Hindenburg can upload your audio as mp3 or AAC as a podcast, and offers ftp upload and the option to upload to a SoundCloud or PRX account. Hindenburg supports chapterisation of podcasts and e-books, and you are able to add images and urls to files destined for iTunes. There's a full metadata editor for your podcast on board, and a handy 'chapter' view to get the big picture of the podcast.

Last but not least there's the mobile dimension: Hindenburg has an iPhone app allowing you to record and edit in the field, and when your iPhone is connected by wireless to the same network your computer is on, you can even directly exchange clips from desktop to phone and back. This looks cool and had me wistfully looking at iPhones, this being an Android/Blackberry household. But, hey, Hindenburg: we do have an iPad… The app also supports emailing of clips or upload via ftp or to SoundCloud, and finally, if your phone is connected to your computer then you can load directly to iTunes.

**Conclusion**

I have to say that Hindenburg is an impressive system. With versions for Windows and OSX, and for your iPhone, it has a lot of bases covered. Don't compare it with Wavelab or Sound Forge and bitch about the features it doesn't have; Hindenburg is about focused content creation for radio and podcast people who are interested in story telling first and foremost, and for them it is a welcome relief. Hurray for Hindenburg.

**From The Manufacturer:**

**"Hindenburg develops editing tools specifically for audio storytellers – radio journalists, podcasters, and other audio narrative producers. Most traditional DAWs are developed primarily for music production or as integrated subsets of a larger broadcast enterprise solution... All Hindenburg solutions are designed by, with, and for professional radio journalists and podcasters, to ensure that user needs are addressed first and foremost. Fully-integrated desktop and mobile solutions allow fast recording, editing, and delivery of radio packages or enhanced podcasts from anywhere."**

Chris Mottes,
Hindenburg Systems

## Information

**Feature Set**
- Automated Levels
- Voice Profiler
- Call Recording
- One-Click Publishing
- Mac OSX 10.4 - 10.8 and Win XP - 7

**Manufacturer**
Hindenburg Systems
www.hindenburgsystems.com

**Price Details**
€350 – Hindenburg Journalist Pro
€85 – Hindenburg Journalist
€380 (prices starting from) – Hindenburg Broadcaster

"Being able to easily implement parallel processing and Mid-Side processing at the touch of a button is wonderful. Being able to have six processors hardwired in and swap them around so easily is also delightful"

# Maselec MTC-1

## Stereo Mastering Transfer Console

**This is the mastering console** that many mastering engineers would have appreciated in the 1970s. I love that each button and each metal knob serves one purpose. There is little compromise in function and no compromise in sound.

The front panel is laid out with logical signal flow from left to right. On the inputs, I can select from two sources, polarity, Hi and Lo Pass filters (six frequencies each, +/-5dB gain trims, 0.5dB steps), and a 5dB boost switch.

There are six inserts, selectable simultaneously in series or 1/2 and/or 4/5 can be reversed in sequence. On Insert 1, an internal M-S matrix is available with a 'balance' knob. On insert 4, a push button allows the return of that unit (or of the sum of Units 2-4) to be added to the sum of the previous inserts, enabling parallel processing. Alternately, selecting the Add button adds Insert 4 to the main signal, for reverb or an effect to the main stereo program.

The output of the mastering section allows for +/-5dB adjustments in 0.5dB steps, and mute. In the Image Section, there are two controls new to me: Elliptical Filter and Stereo Width. The Elliptical Filter is a holdover from the vinyl record mastering days and sums LF signals below the cutoff frequency, variable in 20 steps from 40Hz to 360Hz. Stereo Width varies the signal +/-100% from mono (-100%) to extremely wide (+100%). A Post Output 6 button enables the use of a peak limiter last (post faders and amps) in the signal chain, just before the output XLRs.

The monitor section allows switchable monitoring of 4 stereo sources or Input or Output, with Main/Aux speaker select, a detented monitor knob, with Dim or Left/Right Cut switches. The output can be monitored as Left only, Right only, Stereo, or Mono and Difference.

On the back panel, there are 42 gold-plated XLR connections offering four monitor sources, six insert pairs, Main and Aux speaker outs, Main and Aux line outs, and a Meter Feed for external metering.

### In Use

For the listening tests, I enlisted the help of Joe Palmaccio (Michael Jackson, Heart) at The Place… For Mastering in Nashville (theplaceformastering.com). His Eggleston monitors with Pass Labs amps allowed very critical listening. His take was that it's quiet: very quiet. "I can hear things that I didn't hear before. I didn't measure it but that was definitely my first impression." We both agreed that having the routing flexibility is really nice for quickly auditioning signal path alternatives.

How does the MTC-1 sound? Well, that's a trick question. It doesn't really have a sound – precisely what you want from a transfer console. The purpose is easy and flexible functionality without hindering creative options. The MTC-1 gets straight As. Being able to easily implement parallel and MS processing at the touch of a button is wonderful. Being able to have six processors hardwired in and swap them around so easily (albeit with limitations) is also delightful. It was a treat being able to swap three different brands of EQ in and out of the circuit and try different compressors and combinations with the touch of a button or two (or six).

The Image section is what really intrigued me though. I'm not sure I'd ever use the Elliptical section (those doing disk mastering will), the Stereo Width control held my interest. Being able to push the width of the image to extremes was amazing. Even more amazing was the fact that, as I switched from Stereo to Mono, I was unable to detect a difference between extremely wide (+100) and just plain stereo when monitoring in mono... Take all the width you want and the centre image is still loud and proud – the most unique feature on the MTC-1, and it's borrowed directly from the big brother MTC-2.

### Summary

All in all, this is a rock-solid, purpose-built premium unit that didn't get distracted from its primary goal in the design phase. I like things like that. I suspect there are other engineers who will too. AM

**From The Manufacturer:**

**"Mastering is a particularly intense production activity, requiring high levels of concentration, and equipment with flexibility, reliability, and predictable outcomes. The MTC-1 brings the tools of a mastering engineer together in a way that minimises distraction from the creative task, but also adds a little creativity along the way. This makes it valuable, both in real terms and creative terms, to my customers and their clients."**

Leif Mases, Maselec

### Information

- Flexible input section
- Six inserts
- Insert order variants
- Elliptical filter (bass summing)
- Stereo Width
- Comprehensive monitor section

**Manufacturer**
Maselec
www.maselec.com

**Price Details**
UK: £5,760.00

**THE REVIEWER**
Lynn Fuston is the owner of Nashville's 3D Audio, Inc. and is the Technical Editor for *Pro Audio Review.*

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# Nearline storage

**Part two of Video Guide's examination of video storage looks at middle layer stores for holding more material than online servers.**

**Offline video** storage is memory heavy and expensive because it typically has to hold good resolution versions of footage, which are worked on in the colour grading, visual effects, and offline editing suites to produce the finished sequences that make up a film or television programme. In the last two to three years facilities have realised that operators and production teams may need access to everything that was shot, so nearline storage has emerged as a convenient and cost-conscious way to store all the material related to a production rather than putting every piece of footage on the WIP system.

Nearline storage has become a necessity largely because of the increase in shooting ratios on location and, to a lesser extent, in the studio. When videotape and film were the dominant acquisition and production formats the cost of the tape or stock, combined with a finite amount of recording time for each magazine or cassette, made directors, producers, and camera crews think hard about what they would shoot and for how long.

The shooting ratio is defined as the amount of footage shot in proportion to how much is used in the finished production. In the late 1990s the shooting ratio on a feature film was generally between 5:1 and 10:1, although, by their nature, documentaries had a higher rate than that. The move to file-based recording on data drives or solid state media using digital cameras means the cost of recording media has come down and camera operators can shoot for longer because they are not constrained by short run times, as was the case with film reels and videotape.

Nick Pearce, co-founder of storage and software developer Object Matrix, estimates that in the UK, television production shooting ratios are now in the region of 30:1 to 60:1. This means there is more footage to work with but not all of this can go on the main storage system at the same time, nor is it practical to put everything that might be used later into the deep archive.

Nearline storage is the middle ground between two extreme points. It is more affordable than online stores and allows people to find the segments they need and retrieve them easily. Like online and archive storage, nearline is a well-established concept in IT and now is seen as a necessary new layer in the broadcast and post-production chain.

**"The move to file-based recording on data drives or solid state media using digital cameras means the cost of recording media has come down and camera operators can shoot for longer because they are not constrained by short run times, as was the case with film reels and videotape."**

### First Response

Rupert Watson, Chief Technology Officer of Soho distributor and systems integrator root6, says nearline is a response from customers to today's operational set-ups, with large amounts of data being created before post-production begins. Although not everything will be used, production teams need to know that they can have easy access to it if necessary.

Watson says TV operations have moved on from when tape was the norm. Videotapes could be put on a shelf and everyone would know where it was and, if it was labelled properly, what was on it. Today footage is being shot on data cards or G Tech drives, which have to be closely tracked so that nothing goes missing. Watson observes that because of this pre-WIP storage in the form of nearline is becoming ever more important, particularly if the programme goes to series or if elements are needed for a dub.

As with online, the nearline market is moving on from the days of a pure IT approach, as represented by computer companies like Hewlett-Packard and IBM. During the 2000s more specialised products appeared on the market from developers including QNAP, GB Labs, Isilon, Object Matrix, which produces the MatrixStore, Nexsan, and its AutoMAID (Automatic Massive Array of Idle Disks), and now Avid with the new ISIS 2000.

As with any storage, nearline is, in Rupert Watson's term, merely a silo or big bucket, if there is no means of managing and tracking what goes into it. This means that media asset management (MAM) systems are a necessary working partner for nearline storage so that material can be logged and tagged clearly so it can be located later. MAM will be discussed more fully in a later Video Guide, but leading developers of these programs include Tedial, Nativ, IBIS, Harris, and Avid, with Interplay, down to Square Box Systems' CatDV. A program now being used by high-end Hollywood facilities is DataFrameworks' ClarityNow!, which is promoted as being able to help visualise and understand what is on a disc.

Once a file or piece of footage has been found on the nearline store, which it is likely to have been kept in low resolution or proxy form, it can be pulled off and restored to full quality for online use.

### Next Month

Next month's Video Guide will examine the next level of storage down, the deep archive.

### GLOSSARY

Nearline is a contraction of near-offline and is also known as nearchive (for near-archive), both of which show that this level of video storage is midway between the full resolution work in progress (WIP) store for the main post suites and the deep offline data tape-based library. Nearline is not an editing platform, but it is a more convenient way to store footage that can then be retrieved quickly and used for an edit.

### REFERENCE

The Complete Film Dictionary second edition by Ira Konigsberg, 1997 Penguin Reference

## FACILITY FOCUS

**Sumners**
Manchester
www.sumners.co.uk

Full post-production facilities, including video editing, finishing, audio editing, dubbing and data handling, plus production services and support.
Managing Director: Andy Sumner
Director of Operations: Janet Sumner

With its main premises in Manchester city centre, Sumners has been a fixture on the facilities scene of northwest England for 20 years. It was founded by Andy and Janet Sumner, who were film and videotape editors at Granada Television before deciding to go out on their own in 1992.

The company has expanded its operations through its involvement in MediaCityUK (MCUK). It started a joint venture with MCUK developers Peel Media to run the Pie Factory film and TV sound stages, and recently announced it was to open a new post facility at the main Salford Quays location.

Sumners runs over 25 edit suites, a picture finishing department, a colour grading suite, four dubbing rooms, and supporting sound editing areas at its main facility. The company moved to tapeless working just over two years ago, when it began to reassess how its workflow was managed. Sumners' technology department realised that something cleverer with more levels was needed, and so plans for an IT-based, hierarchical storage system were drawn up, including provision for a mid-way storage system.

The facility's video operation is based around Avid editing workstations, which are on a network connected to two big ISIS servers, plus a Unity system. During 2010 a 33TB Object Matrix MatrixStore was installed as Sumners' main nearline system, working in conjunction with the Avid production chain. Since then the number of storage clusters has been increased to give more than 90TB of storage

A member of the team that specified and oversaw installation of the Object Matrix system was Sumners' then Technical Director, Brian Hardman, who recently left the company to join The Farm at MCUK as head of operations. He commented earlier this year about how the nearline storage works in relation to everything else at Sumners: "With the workflow now we can get any file-based rushes, verify them and put it all on to nearline."

## VIDEO NEWS

### Storage Award

SGL has been awarded a TV Technology Europe magazine STAR award for the innovative new interface for SGL FlashNet and FlashBrowse. The Awards are chosen by a panel *TV Technology* editors and columnists reviewing a variety of products at IBC. Nominations are based on the product's technical applications and overall contribution to the industry.

SGL's award recognises the innovative browser-based interface for SGL FlashNet, which was released to the european audience at this year's IBC show. The new interface is a lightweight, cross-platform HTML 5 interface to SGL's flagship product FlashNet, which provides users with a rapid, simple-to-use control system directly to and from the archive. The award also covers the FlashBrowse 3 module, available as a plug-in to FlashNet. FlashBrowse 3 creates low-res proxy versions as high-res clips are transferred into the archive, and provides a browse viewer directly in the FlashNet interface. Users can search on all metadata attached to a clip, and then scrub through clips to complete the identification before restore. The viewer also contains in- and out-point markers to facilitate partial file restore.

"We are absolutely delighted to receive the STAR award from *TV Technology* Europe," says Paul Moran, CTO and Joint Managing Director of SGL. "The new FlashNet and FlashBrowse 3 interface brings our customers a whole new set of workflows that streamline the archive management process, and we've had huge amounts of really positive feedback. The whole team at SGL has worked extremely hard to research, develop, and bring this new innovation to our customers, and to have such an esteemed panel of judges recognise the value that this will bring to the M&E industry is genuinely appreciated."
www.sglbroadcast.com

PRODUCT FOCUS

### Avid Technologies ISIS 2000

*Nearline storage system for accessing and managing material*

**Price: GB£145,911.42 (€181,682.13/$235,000) for a 240TB engine**

**Main Specifications:**

- Avid ISIS File System:
- 64-bit self-balancing, distributed file system, giving fast access to nearline files from any workstation with distributed file system management among clients, storage devices and the system director.
- ISIS 2000 Storage Engine:
- SBB (Storage Bridge Bay) controller module running embedded OS
- 84 hard disk drive (HDD) slots with 82 3TB SAS drives
- SW RAID 6, two hot spares
- 5U rack height
- Dual power supplies and five fans (220v power)
- Network Interfaces
- Dual port 10G and 1G Ethernet NIC SFP+

**Key Features:**

- Avid workflow integration, working with Interplay, Avid editors, and servers
- Avid-based Nearline Storage Tier, which complements online storage systems
- High capacity, protected storage featuring RAID 6 protection
- Management integration, with full administration tools for configuration and allocation of workspaces
- Open storage for any file format, accessing media from any non-Avid workstation platform running CIFS/FTP

The system works with Avid's Interplay creation and management system to enable browsing of the storage array. Kevin Usher, Director of Solutions Development at Avid, says the company had a nearline/nearchive system some years ago for broadcast news work and decided to revisit the sector after assessing the market.

"There has been file-based working for many years, although some users haven't moved over completely yet," Usher says. "But the coming of HD and 3D means there is more need to store material because there are now thousands of hours of it to deal with. Where we see the opportunity is in the integration and management of nearline, which is why ISIS 2000 works with Interplay."

Usher says that while the ISIS 2000 does not have the same characteristics as the higher end 5000 and 7000, because it is a lower cost system not designed for editing, it can work with the online systems to give access to low and proxy resolution files that can be transferred over. Usher adds that the intention is to give facilities the ability to build a "rich, highly managed" system integrating online and nearline storage, giving access to low resolution proxy copies that can be retrieved as full res versions for editing.


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**Gil Norton:** Foo Fighters, Pixies, Gomez, Feeder, Counting Crows, Maximo Park

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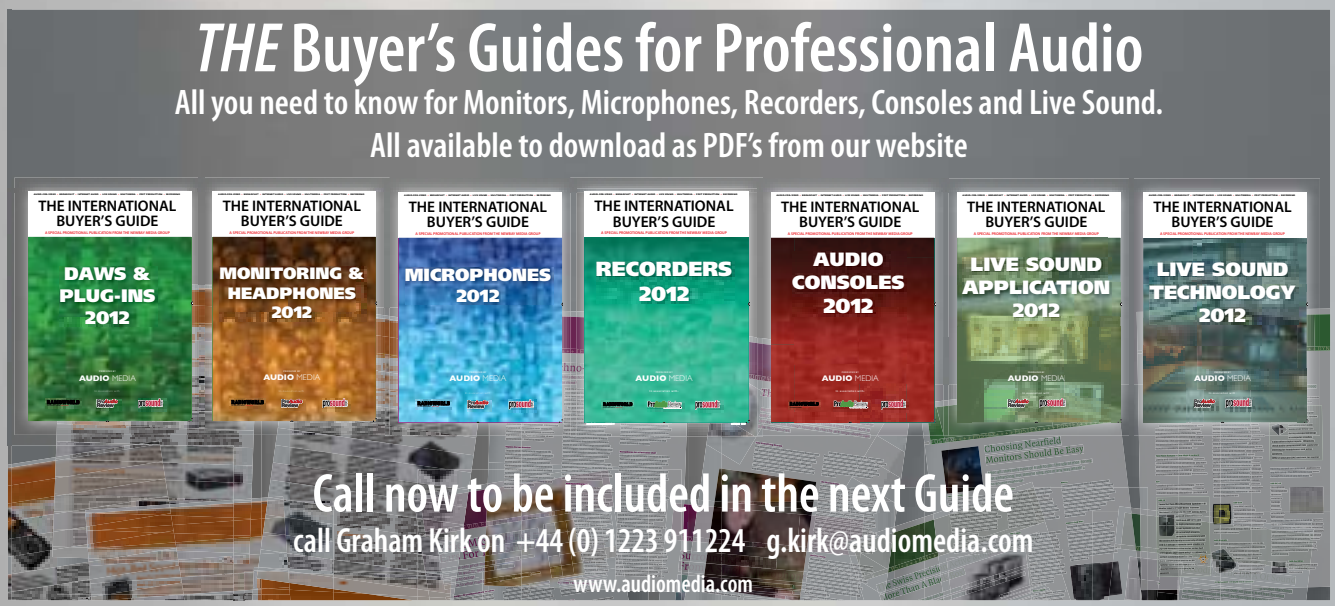
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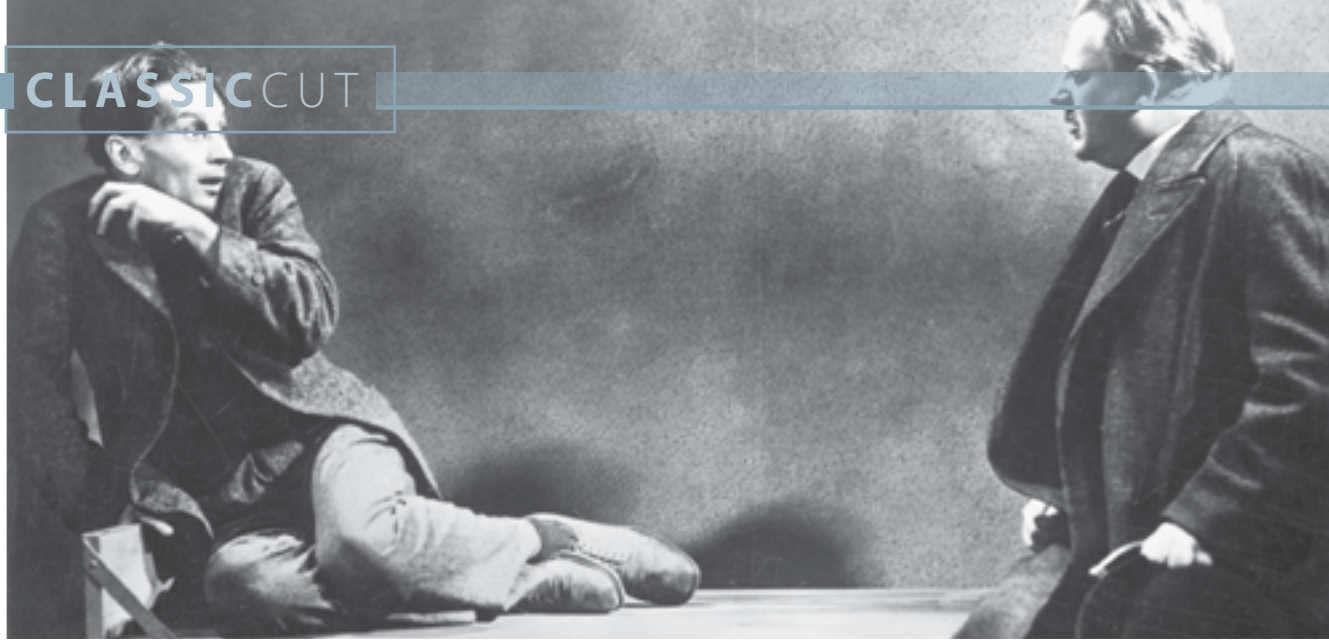

# The Testament of Dr Mabuse

KEVIN HILTON

**The coming of sound** in the cinema ended the careers of many actors whom the camera loved dearly, but who did not find a friend in the audio recorder. For directors it was either a creative challenge or merely something else to think about. Austrian Expressionist filmmaker Fritz Lang did not immediately embrace the new technology but when he did he explored its potential fully, as shown in a new Blu-ray/DVD release of *Das Testament des Dr Mabuse* (*The Testament of Dr Mabuse,* 1933).

Lang first used sound on 1931's *M*, which is notable for its use of voice-over narration and sounds that link scenes. This latter technique was used to great effect in *The Testament of Dr Mabuse*, a sequel to Lang's earlier silent feature *Dr Mabuse, der Spieler (Dr Mabuse, the Gambler*, 1922), which is also linked to *M* through actor Otto Wernicke reprising his role at the jovial but tough Inspector Lohmann.

> **"The ticking carries into the next scene, segueing into the sound of another member of the gang tapping a boiled egg with a spoon. … the critic Noël Burch called these transitions 'rhymes', saying they often camouflaged the true meaning of what was happening."**
>
> Kevin Hilton

In the first film Dr Mabuse (Rudolf Klein-Rogge), a criminal mastermind with hypnotic powers, plots to take over Berlin but is captured after a shoot-out with police. *The Testament of Dr Mabuse* picks up ten years later, with the arch-villain consigned to an asylum. He speaks to no one but constantly scribbles away in notebooks, drawing up plans for a new reign of terror, unbeknownst to the head of the institution, Professor Baum (Oskar Beregi).

On the outside Mabuse's new gang is preparing to flood the local economy with counterfeit currency. The film starts in the printing works, the thudding of the presses creating a disorientating sensation as the viewer is assaulted by noise while tying to work out what is happening. A disgraced former policeman, Hofmeister, is hiding in the factory, hoping to gather evidence of the plot to take to his ex-boss, Lohmann.

The gang allows him to get out of the building and into the quiet of the street. But this tranquility is shattered when something is dropped from a window, just missing Hofmeister to crash on the pavement. A rumbling sound accompanies a second attempt on Hofmeister's life, as a metal cask rolls towards him and explodes.

Despite this Hofmeister gets away and tries to alert Lohmann, who is introduced through sound. The screen is dark but he can be heard whistling. The picture fades up to show him preparing to leave his office and go to the opera when the phone rings. It is a desperate Hofmeister, and Lohmann is not pleased to hear from him. When the Inspector finally takes the call, Hofmeister has only started his story when the lights go out in the room he is in. The audience is once again left with no idea what is going on as Hofmeister cries out and shots are heard.

### Measured Madness

At the asylum a colleague of Baum, Dr Kramm, accidentally discovers that Mabuse's notes are not random, insane scrawl but match newspaper reports of recent robberies. Kramm resolves to inform the police but Mabuse's gang is tipped off by Baum's servant, who is working for them. Two crooks catch up with Kramm's car when it is stopped at traffic lights. The driver starts to sound his horn, which makes other drivers follow suit. This builds to a cacophony and Kramm good-naturedly joins in, unwittingly helping create a cover for the silent gunshot that kills him.

There are long stretches in the film when there is no music or sound effects, but this makes the audio Lang does use all the more effective. Another technique used to good advantage is having lines of dialogue delivered over shots that do not include the actor speaking. This implies that the sound is not always connected to the images, or that someone is in fact talking about something else.

The gang has been receiving its instructions from someone they believe to be Mabuse, who speaks to them from behind a curtain. The weak link in the conspiracy is Tom Kent (Gustav Diessl), who, with his devoted girlfriend Lilli (Wera Liessem), is brought before the mysterious leader. They discover there is no one behind the screen, only a cut-out figure and a loudspeaker. Suddenly, in the quiet of the room, Kent and Lilli hear a ticking sound and realise what the 'voice' meant when it said they would not leave alive.

The ticking carries into the next scene, segueing into the sound of another member of the gang tapping a boiled egg with a spoon. Lang used the technique in many of his German sound films; the critic Noël Burch called these transitions 'rhymes', saying they often camouflaged the true meaning of what was happening. Although time seems to be running out for Kent and Lilli, they do escape, while the villains are rounded up by Lohmann and his men after a short siege.

### Evil Lives On

Lohmann is perplexed by the fact that Mabuse's plan is still going ahead despite the evil doctor dying in hospital. He suddenly realises that Mabuse's spirit has been controlling Professor Baum, who is as much a reproducer of the villain's words as the loudspeaker and gramophone he used to communicate with the gang.

After an explosion at a chemical factory, with a conflagration and sound effects that a Hollywood blockbuster would be proud of, Baum/Mabuse flees back to the asylum, pursued by Lohmann and Kent. The once arrogant Professor hides in a cell, his mind broken. He begins to tear up Mabuse's blueprints for an empire of crime. The sound continues as the picture fades to black and is cut off as we hear the door being closed and locked.

As with many Lang films, even that finality does not seem final enough..

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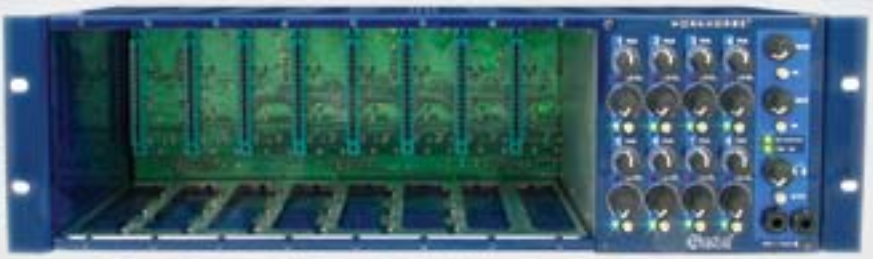

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## Welcome

Welcome to *Live Sound Application 2012*, a collection of articles sampling the uses and abuses of specific technologies in the professional sound reinforcement arena.

From club to theatre and from local venue to stadium, the *Audio Media* editorial team, plus selected industry partners, have put together a selection of application profiles for you to enjoy. There are interviews with some of the leading names in FOH and monitor engineering, system design, and more.

We've got contributions from some top-notch names, including: Canegreen's Yan Stile, Wigwam's Chris Hill, Britannia Row's Bryan Grant, freelance theatre Sound Designer Gareth Owen (Tony Award in Sound Design Trevor Nunn's Broadway production of A Little Night Music), Donal Hodgson has recorded and mixed Sting, and Front of House Engineer Josh Lloyd (Britannia Row).

We hope this latest instalment in our series of International Buyer's Guide supplements will give you an insight into the working methods, tricks, and technology choices of peers in the sound reinforcement industry.

All of the supplements are available free from the *Audio Media* website as PDFs. There are now quite a number to choose from, including *Microphones*, *Recorders*, *Consoles*, and *Monitors*, as well as *Live Sound Technology*, *The Manual*, and the *Game Sound Special*. All of these include additional editorial content.

This promotional guide has been produced by *Audio Media* magazine (audiomedia.com), in association with *Pro Audio Review* and *Pro Sound News US* (prosoundnetwork.com). All three publications concern themselves with the business of audio production on tour, on location, and in the studio – for professional creatives, operators, technicians, and engineers everywhere.

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# What's On The Rider?

With technologies constantly evolving in PA systems, consoles, microphones, and pretty much everything in pro-audio world, just how much has this affected the audio specifications for live productions? PAUL WATSON talks to the some of the UK's leading rental companies to get the lowdown on what's currently on the audio rider…

"Nine times out of ten the PA system is going to be either a d&b of some kind or an L-Acoustics V-DOSC," reveals Canegreen's Yan Stile, who is also a Director at SSE Audio. "They're the favourites at the moment, and in terms of consoles it's pretty much always going to be a Midas, a Soundcraft, a DiGiCo, or an Avid."

Outboard, however, is a thing of the past, according to Stile, who remembers how wary engineers were of using inbuilt effects when digital desks were first launched some years ago.

"Everyone was worried about failure, but because everything's so much more solid and reliable these days, outboard and anything analogue has tended to slip away," he says. "We have our [Midas] Heritages on the mezzanine [at SSE] now, which tells you something – that's the graveyard, basically; but there will always be people who want that stuff, so you have to be careful what you get rid of – it's a funny old thing, really."

### On The Wire

Although wired microphones are still the norm in most of the shows that Canegreen/SSE put out, Stile insists that radio is now 'right in your face' and is far easier to buy into technology-wise than it was back in the late 70s, when he first started working with wireless mics.

"The only wireless mics you used to be able to get back then were by a manufacturer called Nady, and they were only available from specialists – that's how I started my association with Hardware House; they bought the first handhelds over to the UK and they were around £3,000 each and nowhere near as reliable as they are now.

"The wireless technology we have now is just fantastic – we have 50 channels of radio going out on the Jesus Christ Superstar tour in September, for example – and that's a huge amount. For that show, we'll need a specialist just for the radio, which shows how far it's come.

"Wired mics are still popular because they're bullet-proof, and traipsing round the country trying to tune into a legal frequency which you have licensed, only to find that some other bugger is using it, is a pain in the arse – and when you call the licensing people, they just say: 'well go and find them and tell them you have it licensed', but that ain't gonna happen, is it?"

Staying with wireless, Stile was one of the pioneers [along with Pete Edmonds] of the in-ear monitor, which he says is extremely popular on the riders of today – though the technology has come a long, long way since then, of course.

"When Pete and I were at Personal Audio Systems UK, we developed and sold the first commercially available IEMs in the world – it was Stevie Wonder that had initially given us the idea, as he'd just had his own system designed," he explains. "And before we knew it, we had Rod Stewart, Jeff Beck, loads of these huge artists coming over to our place in war-torn, downtrodden Tottenham to try them out. They were interesting times. Nowadays, the in-ears are extremely popular, and very, very well made; they regularly appear on your average rider."

### The Old Battle

In terms of analogue-versus-digital, console wise, Stile believes it's very much 'horses for courses', though says footprint has become more of a priority.

"In the old days, FOH engineers would want protection: a massive analogue console and perhaps a stretched console too, with four or five racks of 19-inch processing – like a 'caravan kingdom', if you like," he smiles. "But that's changed – look at Robbie McGrath [FOH Engineer on current Stone Roses tour] for example; he uses a little Midas PRO6 and just a couple of racks of his cherished old outboard, which we actually custom-built in our wood shop. That would never have been the case a few years ago."

On the contrary, Wigwam's Chris Hill says he's seen a swing back to analogue recently, though admits it does depend on the type and size of the show.

"A lot of engineers are now contemplating going back to analogue, but they approach it in a restrained way; that's why they get the results – because it's all there," he says. "With digital, there are hundreds of things you can play with – you can end up scrubbing the board and then it sounds too compressed, because you end up using too many plug-ins."

Currently, Wigwam has George Michael and Coldplay out on tour – both of whom have a mix of analogue and digital equipment in tow: on the George Michael, four DiGiCo SD7s were specified, but also half a dozen Lexicon 960 and 480 units and some TC Electronics System

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6000s; and for Coldplay, a DiGiCo SD7 sits at FOH, but there are also a number of analogue reverbs and a whole host of outboard on the tour.

"On the George Michael tour, we have 200 channels on each [DiGiCo] board; for a job like that, it absolutely has to be digital – but really it depends on the job – and also, I guess, the generation of engineers," states Hill. "Obviously a lot of the more established engineers' mindsets are: 'I know what works and I'll stick with it and get results', and they're happy to keep working like that, but the batch of new engineers tend to be a bit more experimental, looking at it with a different approach. It keeps it quite fresh as you get a balance from the two."

### Out Loud

In terms of PA equipment, Hill says most loudspeaker systems are good these days, and says that because Wigwam always has the most up to date technology, it is able to cater for anything.

"We're the biggest d&b user, so we got 120 of its new V Series cabinets straight away, which are really great," Hill says. "The cost of running a PA company really has soared through the roof though. With the increased cost of touring and putting events on, trucking is now extremely important; you have to be as tight as possible where you can. With a big show, rather than flat pack kit, we build it right up, because the cost is much higher to transport a truck around Europe than it used to – and of course the cost of the fuel is much higher. There is a lot more to consider on that side these days."

Brit Row's Bryan Grant says there is definitely more variety nowadays, and that an engineer will typically pick several systems in order of preference: perfect, good, and acceptable.

"This is pretty much how it works now, as people are definitely more aware of the kit that's out there, what it can and can't do," Grant reveals. "People know about the differences between the equipment, and with the top of the line stuff, it's only a question of degrees, not that one is bloody awful and the other is fantastic."

### It's A Smaller World

Grant says artists are travelling more and more globally but on shorter promo jaunts, which often means they'll only end up taking "the clever bits" due to the transport costs.

"We've had bands fly to Sydney for two days, and of course it's not worth carrying all the kit, so you will specify acceptable kit locally," he explains. "When we did the World Cup opening concert in South Africa, we just took the clever bits from here and picked up what was already there."

Grant says L-Acoustics' K1 system is still the biggest on the riders, and in his opinion is probably the best on the market at present. In terms of consoles, the recent surge from Midas over the past year, which has resulted in the extension of its PRO range (PRO1, PRO2, and PRO2C), has made the manufacturer particularly popular.

"Midas now has a whole range of quality consoles, so it's very common to see them on any rider," he says. "But what it has also done is make the dongle interchangeable between boards, which is incredibly clever; users can now say: 'OK, I use an XL8, but a PRO6 will be fine – or even a PRO2 for that matter – for me, that becomes very cool."

Yamaha's PM5D is "still a workhorse", Grant insists, although he's also been particularly impressed with the manufacturer's latest digital offering, the CL Series, which he thinks will "really catch on".

Grant believes that Meyer Sound, Turbosound, and L-Acoustics have set a trend in that users have to buy the entire system, which has led to consistency in their systems worldwide.

"Because of this, and providing the people are trained and the kit is maintained, any of these manufacturers' loudspeaker systems will be as good anywhere in the world as they would be here in London, or over in San Francisco," he says. "People still carry control and monitor control if the tour justifies it, but with air freight costs as high as they are, what's the point of taking all these boxes with you when it'll only cost you a fortune?"

At Brit Row, the deployment of wireless equipment is very much on the up, with mainly Sennheiser and Shure microphones and IEMs being specified most of the time.

"More and more people are using them, because again, you can travel light," he explains. "Taking a big monitor system around doesn't make that much sense when you can do that – I mean, people do it, but that's the huge artists, really. U2 will take all that kit with them wherever they go because they're after that level of consistency, and Madonna will take the lot too, as her shows are so big. But the level of economics is different if it's a smaller band, as they need to consider their options, especially in this kind of climate."

**"…the batch of new engineers tend to be a bit more experimental"**

### Riding On Into The Future

So today's riders may be heavily digitally oriented, but clearly there is still a proportion of engineers that like their trusted analogue outboard processing, and even the odd analogue console, on occasion. However, there is a lot more to consider than just audio excellence these days: footprint, affordability, lighter rigging, power consumption (everyone's trying to be green), trucking space – and that's just for starters. And the smart manufacturers are designing their new products with this consideration in mind: smaller, lighter, one- or two-man lifts, equal I/O capabilities than their larger forefathers, and with heaps of processing built in.

On top of this, production and hire companies now need more than ever to be acutely aware of costs that were perhaps slightly less critical a few years back, such as freight and transportation, which are continuing to soar.

# From Broadway to the West End, Gareth Owen Chooses VENUE

Gareth Owen is one of the most prolific young sound designers in musical theatre today, with an ever-growing list of credits and accolades that includes countless A-list productions from Broadway to the UK's West End and across Europe.

He is the youngest person ever to be nominated for a Tony Award in Sound Design for his work on Trevor Nunn's Broadway production of *A Little Night Music*. He is also the youngest person ever to be nominated for an Olivier Award for his work on Terry Johnson's *End of the Rainbow*, for which he received his second Tony Award nomination as well.

Now fully independent and in extremely high demand, Owen continues to push himself and works tirelessly to deliver an unforgettable theatre experience for his audiences night after night. And when it comes to selecting an audio console up to his standards, Owen prefers Avid VENUE systems.

"At the moment, we've got a VENUE Profile on both the West End and Broadway productions of *End of the Rainbow*, the British, Italian, and French productions of *Sister Act*, and the international production of *The Sound of Music*," he explains. "It's absolutely the console that we've chosen to use for these types of productions."

When citing the features that bring VENUE to the top of his list every time, Owen first points to the system's powerful automation capabilities. "VENUE allows us to dramatically simplify the whole show in ways that other desks simply can't match. For example, in a complicated song we'll have many cues triggering VCA and vocal mic automation. On a traditional desk, if you want to recall the band mix as you move from cue to cue, you need to have the band mix within each of those cues. As a result, every time you press the GO button, it also resets the band mix. On the VENUE, we're able to create a separate cue and VCA group just for the band mix. As you hit GO through the course of the song to change the vocal cues, the band channels are unaltered. This is extremely powerful for theatre mixing, and no other console can match the VENUE in this regard."

Owen is equally enthusiastic about the VENUE system's ability to access the vast Pro Tools plug-in library. "The VENUE's plug-in system is absolutely fantastic. Being able to easily scope plug-ins within scenes and completely change or recall them whenever I feel like it is really handy. And because most musicians are also Pro Tools users, I have access to the very plug-ins they're using in the studio. If I don't already have it, I can quickly download it, share pre-sets, and deliver exactly what they're accustomed to hearing. Very cool."

Theatre sound design requires a high-degree of cooperation with both actors and musicians alike, and Owen has come to rely heavily on the Avid Personal Q (PQ) system to achieve ideal monitor mixes to keep the team happy. "I like the PQ control a great deal and use it fairly consistently. The band members love the freedom to create their own mixes, and I appreciate being able to see exactly what they're doing. It's especially handy on those occasions when a band member says, 'I haven't got any drums in my headphones,' and I can simply look down and reply, 'Well that's because you've turned them off.' I do rather enjoy those moments."

***(L to R): Gareth Owen, Joanna Lynne Staub, and Liz Coleman.***

Always one to push the boundaries of his own knowledge and creativity, It's ultimately the VENUE system's flexibility that keeps Owen coming back for more. "Theatre sound is very dynamic, and the need for new and better workflows demands creative thinking for each production. The VENUE systems offer a level of freedom that has allowed me to explore some incredibly powerful and effective solutions."

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# Product Comparison

| | SD11i | SD9 Supercharged | |
|---|---|---|---|
| Max no of Input Processing Channels | 32 Flexi* | 48 Flexi* | |
| Maximum Buss Count | 39*** | 47*** | |
| Max aux / sub-group busses | 12 Flexi* (full processing**) | 16 Flexi* (full processing**) | |
| Matrix (in addition to aux / sub - group) | 8 x 8 (full processing**) | 12 x 8 (full processing**) | |
| Solo busses | 2 | 2 | |
| Max no. of inputs - Non optic consoles | 130 | 180 | |
| Max no. of inputs - 1 console on optic loop | N/A | N/A | |
| Max no. inputs - 2 consoles on optic loop | N/A | N/A | |
| Local I/O spec | 16x mic/line inputs, 8x line outputs, 2x AES/EBU I/O (mono streams) | 8x mic/line, 8x line outputs , 4x AES/EBU I/O (mono streams) | |
| Max no. of outputs | 122 | 180 | |
| Max no. of faders | 12 | 24 | |
| Screen | 1x 15" touch | 1x 15" touch | |
| Ext. overview screen | Yes | Yes | |
| I/O expandability | Yes | Yes | |
| Insert points / channel | 1 | 1 | |
| On Board FX | 6 | 8 | |
| Graphic Eqs (32-Band) | 12 | 16 | |
| Dynamic EQ | 6 | 8 | |
| Buss 8-band Parametric EQ | No (4 band only) | No (4 band only) | |
| Multiband Compression | 6 | 8 | |
| DiGiTubes | 6 | 8 | |
| Multi-channels | Yes | Yes | |
| VCA - style control groups | 8 | 8 | |
| Set Spill | Yes | Yes | |
| Mute Groups (part of control groups) | 8 | 8 | |
| Reorder Busses | Yes | Yes | |
| Multi-operator | By remote only | By remote only | |
| Surround | No | No | |
| MADI connectivity | 1x Port | 1x Port | |
| Optics | No | No | |
| Snapshot Offline | Yes | Yes | |
| Snapshot Auto-Update | No | No | |
| Sampling rates | 48 kHz | 48 kHz | |
| Signal processing | FPGA, up to 40-bit floating-point | FPGA, up to 40-bit floating-point | |
| Audio processing and OS location | Surface | Surface | |
| Redundant Processing and Computer | No | No | |
| Redundant PSU's | Yes - by remote PSU option only | Yes - Option | |
| Stage Rack spec | D-Rack - 32/8 I/O (expandable to 16 O) | D-Rack - 32/8 I/O (expandable to 16 O) | |
| Max no of Racks | 2 (with Little Red Box) | 3 (With Little Red Box) | |
| Rack Interface | MADI / RJ45 CAT 5 | MADI / RJ45 CAT 5 | |
| Connector type for racks | BNC / CAT 5 | BNC / CAT 5 | |
| Rack sharing FOH/MON | Gain Tracking | Gain Tracking | |
| Offline Software | Yes | Yes | |
| Recording | Virtual Soundcheck up to 56 channels | Virtual Soundcheck up to 56 channels | |
| Dimensions (mm) and Weight (kg) | 483(w) x 577(d) x 232(h) - 24Kgs | 878(w) x 785(d) x 262(h) - 36Kgs | |
| Dimensions (inches) and Weights (lbs) | 19.02(w) x 22.72(d) x 9.13(h) - 53lbs | 34.57(w) x 30.90(d) x 10.31(h) - 80lbs | |

* Flexi - Configurable Mono or Stereo without the loss of any resources
** Full Processing - Includes 4 or 8 Band EQ, HP/LP Filters @24dB Per Octave, Compressor and gate.
*** Max Buss Count is calculated as Aux / Group Buss + Master Buss (LCR or 5.1 depending on product) + Matrix Buss + 2 Solo Busses (up to 5.1 depending on product)

| | SD8 Overdrive II | SD10 Nitrous | SD5 | SD7 MACH 3 |
|---|---|---|---|---|
| | 60 Flexi* | 96 channels, 12 Flexi* | 124 | 253 |
| | 67*** | 71*** | 98*** | 160** |
| | 24 Flexi* (full processing**) | 48 (full processing**) | 56 (full processing**) | 128 (full processing**) (inc 2x solo buss) |
| | 16 x 12 (full processing**) | 16 x 16 (full processing**) | 24 x 24 (full processing**) | 32 x 32 (full processing**) |
| | 2 | 2 | 2 | 2 |
| | N/A | N/A | N/A | N/A |
| | 576 | 576 | 632 | 696 |
| | 632 | 632 | 688 | 752 |
| | 8x mic/line, 8x line outputs, 8x AES/EBU I/O (mono streams) | 8x mic/line, 8x line outputs, 8x AES/EBU I/O (mono streams) | 8x mic/line, 8x line outputs, 8x AES/EBU I/O (mono streams) | 12x mic/line, 12x line outputs, 12x AES/EBU I/O (mono streams) |
| | 576 | 576 | 632 | 696 |
| | 37 | 37 | 37 | 52 (plus 48 if used with 2 x EX007) |
| | 1 x 15" touch | 1x 15" touch | 3 x 15" touch | 3 x 15" touch |
| | Yes | Yes | Yes | Yes |
| | Yes | Yes | Yes | Yes |
| | 2 | 2 | 2 | 2 |
| | 12 | 16 | 24 | 48 |
| | 24 | 24 | 32 | 32 |
| | 10 | 16 | 24 | 256 |
| | No (4 band only) | Yes | Yes | Yes |
| | 10 | 16 | 24 | 256 |
| | 10 | 16 | 24 | 256 |
| | Yes | Yes | Yes | Yes |
| | 12 | 24 | 24 | 36 |
| | Yes | Yes | Yes | Yes |
| | 12 | 24 | 24 | 36 |
| | Yes | Yes | Yes | Yes |
| | By remote only | By remote only | Yes | Yes |
| | No | No | Yes | Yes |
| | 2x Redundant ports | 2x Redundant ports | 3x Redundant ports | 4x Redundant ports |
| | Yes | Yes | Yes | Yes |
| | Yes | Yes | Yes | Yes |
| | Yes | Yes | Yes | Yes |
| | 48 / 96 kHz | 48 / 96 kHz | 48 / 96 / 192 kHz | 48 / 96 / 192 kHz |
| | FPGA, up to 40-bit floating-point | FPGA, up to 40-bit floating-point | FPGA, up to 40-bit floating-point | FPGA, up to 40-bit floating-point |
| | Surface | Surface | Surface | Surface |
| | No | No | No | Standard |
| | Yes | Yes | Yes | Yes |
| | Up to 56 in / 56 out / MADI split x2 (@ 48kHz) | Up to 56 in / 56 out / MADI split x2 (@ 48kHz) | Up to 56 in / 56 out / MADI split x2 (@ 48kHz) | Up to 56 in / 56 out / MADI split x2 (@ 48kHz) |
| | 16 | 16 | 17. On 2 loops = 31 | 18. On 2 loops = 32 |
| | MADI / Optocore (option) | MADI / Optocore (option) | MADI / Optocore | MADI / Optocore |
| | BNC / HMA optics / ST / Opticon (option) | BNC / HMA optics / ST / Opticon (option) | BNC / HMA optics / ST / Opticon | BNC / HMA optics / ST / Opticon |
| | Gain Tracking | Gain Tracking | Gain Tracking | Gain Tracking |
| | Yes | Yes | Yes | Yes |
| | Virtual Soundcheck up to 112 channels | Virtual Soundcheck up to 112 channels | Virtual Soundcheck up to 168 channels | Virtual Soundcheck up to 224 channels |
| | 1347(w) x 811(d) x 254(h) - 71.3Kgs | 1398(w) x 818(d) x 285(h) - 60Kgs | 1465(w) x 850(d) x 753(h) - 116Kgs | 1496(w) x 875(d) x 503(h) - 107Kgs |
| | 53.03(w) x 31.93(d) x 10(h) - 157lbs | 55.04(w) x 32.2(d) x 11.22(h) - 132lbs | 57.68(w) x 33.46(d) x 29.65(h) - 256lbs | 58.9(w) x 34.45(d) x 19.8(h) 236lbs |

# Perfect Sound Combined With Flawless Design

DPA Microphones offers an outstanding range of high quality microphones that are ideally suited to the rigours and demands of the live sound and touring industries. Whether it's the d:facto™ Vocal Mic, the versatile d:vote™ 4099 Instrument Mic, or the elegant d:fine™ Headset Mic, DPA has a microphone to suit every conceivable live sound application.

Renowned for their audio accuracy, reliability, and superb definition, DPA microphones are held in very high esteem by musicians and sound engineers alike and are the microphones of choice for many international touring artists, theatre shows, recording studios, and television companies. The company's range for live use includes the following:

### d:facto™ Vocal Microphone

Launched this year at Frankfurt Pro Light + Sound, DPA's eagerly awaited d:facto Vocal Mic brings studio sound to the live stage, giving DPA users all the features they love in the Reference Standard Cardioid 4011 mic, but in an ergonomically perfect hand-held form.

d:facto delivers the extraordinarily natural sound, superb definition, and extreme SPL handling for which DPA is famous, and features superior gain-before-feedback to give true sound colour on stage. An inbuilt three-step pop protection grid allows the artist's vocal performance to dominate by removing unwanted noise, while its supercardioid pattern offers exceptionally high separation from nearby sound sources.

Although based on the popular 4011 microphone, DPA has incorporated adjustments to the microphone's sensitivity and applied a subtle high-frequency lift to make d:facto perfectly suited to close microphone placing and level handling.

d:facto has already been put through its paces on several TV shows, including Voice of Denmark, and is proving popular with artists who appreciate true reproduction of their vocals.

### d:vote™ 4099 Instrument Microphones

Perfect for PA amplification and live recording, d:vote 4099 Instrument Microphones are tiny, elegant, rugged, and extremely durable. Developed in consultation with professional musicians, the d:vote 4099 range brings out the unique sound characteristics of individual instruments to deliver the most faithful recording possible.

Capable of handling high sound pressure levels, these microphones combine superior gain-before-feedback and breathtaking clarity and richness with a range of practical features and original accessories. The versatile d:vote 4099 range features a number of different clips suited to a wide variety of instruments. Each microphone incorporates a gooseneck to provide ultra-stable positioning, and the mics can easily be unclipped and repositioned or moved to another instrument. Recent enhancements to the shock mount provide even better absorption, and d:vote 4099 Instrument Microphones now feature detachable cables available in 2.2mm (0.09 in) and 1.55mm (0.061 in) diameter versions from the end of the gooseneck. Further flexibility is available through an extension unit for the gooseneck supplied with the microphone, which lengthens its neck by 50%.

### d:fine™ Headset Microphones

DPA's popular d:fine series of headset microphones offers impressive gain before feedback and very stable construction. These unobtrusive microphones are easy to fit and provide a discreet solution that can hardly be seen on the face. The range, which is renowned for its audio accuracy, is available in both directional and omnidirectional options, and in single or dual-ear designs, with a choice of four different colours.

With their MicroDot connectors and the option of more than 35 DPA adapters, both d:fine Headset Microphones and d:vote 4099 Instrument Microphones are compatible with just about any wireless system. They can also be used as a standard 48V phantom powered microphone via the DPA XLR connector.

### 2000 Series Reference Standard Microphones

Completing DPA's live sound microphone line-up is the DPA 2000 series of modular Reference Standard Microphones. This series comprises DPA's state-of-the-art, all-round condenser omni and directional microphones, and incorporates the 2011 and the 2006 models.

Designed to bridge the gap between DPA's leading miniature microphones and headsets and its 4000 range of world-reference-standard recording mics, the 2000 series capsules permit owners to easily upgrade to the 4000 series, keeping the pre-amplifier and adding one of the four capsules in the 4000 series. The series also comes with a versatile accessory kit that employs a building-block design featuring lightweight modular carbon fibre poles in different sizes. All components can be clipped on and off the poles and adjusted in a variety of ways to achieve optimum microphone placement.

Perfect for a wide range of recording, live reinforcement, studio and broadcast applications, the 2000 series offers exceptional tonal qualities, low self-noise, and very high sensitivity.

**DPA Microphones**
Gydevang 42-44,
DK-3450 Alleroed
Denmark
**t** +45 4814 2828
**w** www.dpamicrophones.com

# JoeCo BlackBox – Front of House Feedback

Compact dimensions, higher track counts, ease of use and safety are just some of the factors behind a steady increase in the number of JoeCo BlackBox recorders and players out on high profile tours and shows. FOH engineers provide feedback.

### Recording Sting

***Donal Hodgson has recorded and mixed Sting for over a decade.***

Donal Hodgson has recorded and mixed Sting for over a decade. He recently used a BBR64-MADI system to capture one of the artist's UK shows.

"I was surprised how small my recording rig turned out to be. All I needed was a 2U rack – 1U for the BBR, and 1U for the hard drive. The BBR64-MADI is surprisingly small considering it records 64 tracks.

"Connecting the device was simple; we used a fibre connection to the Studer (Vista 5) console and a standard USB cable to connect to the hard drive. I used the BBR to reformat my MacOS drive to FAT32 in a matter of minutes. It was pretty easy to find and set the clock ref to the MADI input and I was ready to record. All this I did without looking at the manual. I could have plugged in a PC keyboard and named all the tracks and song titles in advance, or do it after I had imported all the WAV files. I was really impressed with the simplicity and ease of use, and I really like the safety features built into the unit."

### On Tour with Cee Lo Green

Robert "VOiD" Caprio has spent 14 months at FOH for Cee Lo Green. BlackBox Players joined them on tour.

"We've played venues of all shapes and sizes and have never done the same show twice! Playback is of paramount importance. For the most part, the material being replayed is drum loops, samples of various types, string and horn parts, plus some additional background vocals and FX. We were all very impressed with the fact that you can play back 24 channels using a system of only one rack space. The solid-state nature of the unit is compelling, being steadfast and roadworthy. I've found that the DB25 connector with XLR fan-outs makes things quick and easy to patch, even in a festival situation.

***Robert "VOiD" Caprio: FOH Engineer, Cee Lo Green 2012.***

"The main and back-up units reside in a road case along with power and disk drives. We place the case on the drum riser so the drummer (also MD for the band) has access to the unit in case of set changes. The units are triggered via footswitch. Set lists change almost every show and I am responsible for making the changes to the playlist. We normally have a pre-show briefing where we discuss changes – if a change occurs during the show, the drummer/MD will select the next song manually."

### Symphonica – A Track Record!

Head of Audio Andy "Baggy" Robinson spec'd a total of eight BlackBox BBR64-MADI Recorders for the original George Michael 'Symphonica' Tour, which resumes this autumn. A double 256-channel record at London's Royal Opera House made this potentially one of the largest live recording projects to date.

"We have four BlackBox Recorders at FOH with Gary (Bradshaw). He records every sound check and show. We archive it all! Gary has the added benefit of also being able to play back show content during system check. We added another four BlackBoxes for our Royal Opera House show … running an additional record and also acting as a playback engine for tweaking the broadcast mix."

Gary Bradshaw: "I am responsible for recording the shows every night and keeping a log of what show is recorded on which set of drives. The system has no problem in recording all 256 channels over the length of the show. During the rehearsal period we would record an entire session of three or more hours, with all 256 channels in record without any problems. I don't know of any other system capable of doing that."

***Gary Bradshaw and Andy "Baggy" Robinson with BlackBoxes.***

Read the full stories at: http://www.joeco.co.uk/main/interviews.html

**JoeCo Limited**
135 Histon Road,
Cottenham,
Cambridge CB24 8UQ
**t** +44 (0) 1223 911 000
**e** info@joeco.co.uk
**w** www.joeco.co.uk

# Midas Digital Mixing by Royal Appointment

## One of the largest Midas console networks ever constructed helped the Queen's Diamond Jubilee Concert entertain the world in 2012.

Front of House Engineer Josh Lloyd, of live audio specialists Britannia Row, specified a substantial network comprising two Midas PRO9 and one Midas PRO2C consoles front of house – and XL8, PRO9, and PRO6 consoles for on-stage monitor duties.

In addition to the consoles, Lloyd deployed an impressive inventory of Midas digital I/O, including 14 Midas DL431 digital mic splitters to provide a total of 336 microphone inputs, all with a five-way split, for the bands and orchestra.

More than 250,000 people packed into The Mall, St. James's Park, and around the Queen Victoria Memorial in front of Buckingham Palace to watch world-famous musicians honour Her Majesty with their best performance, with millions more watching around the world on TV.

"We chose Midas for a number of reasons," says Lloyd. "Firstly, they sound amazing; arguably the best reason for choosing a console, and secondly, Midas consoles have proved themselves to be robust, reliable, and ideal for meeting the challenges of working on an epic, multi band, fast turnaround show like this." Incredibly fast turnarounds between each performance saw acts such as Kylie Minogue, Annie Lennox, Elton John, and Stevie Wonder taking to the stage in quick succession, and it was Lloyd's job to ensure each act's markedly different requirements were seamlessly integrated into the event.

"It was crucial on this project to have the ability to network more than one console together and then route stems and audio between them. This, combined with the head amp and split that the Midas DL431s deliver, has transformed what is essentially a large and complex system, into a tidy package."
All Midas consoles, and the associated I/O units and hardware, were connected using the systems' integrated AES50 technology over CAT5 cabling. The various consoles' inbuilt audio routers allow all of the consoles on the network to access all of the inputs, and all of the outputs, anywhere on the system, on a snapshot-by-snapshot basis, with less than 70us of deterministic latency per link.

Console wise, a Midas XL8 took care of the house band monitor system, which comprised six musicians, three backing vocalists, and five brass instruments, along with an eight-section orchestra and conductor, as well as providing stem feeds to the other consoles. "In total the XL8 saw 192 channels of input, as well as three Midas DL451 modular I/O units for outputs," says Lloyd. "We also specified a Midas PRO6 and a Midas PRO9 console, each of which had access to all of the mic inputs from the houseband, the orchestra, and the section leaders as well as orchestra stems from FOH."

The PRO6 and PRO9 were used on a flip-flop basis, which enabled the artists to get comfortable with their in-ear monitor mix and to line check, whilst the previous band was on.

Out front, a Midas PRO9 mixed the houseband, and a Klark Teknik DN9696 was employed to record rehearsals and enable fine-tuning of the mixes and automation for the show, as well as to produce reference recordings for the TV production team.

As is essential with a live televised event of this scope and profile, everything worked flawlessly on the day, resulting in a royal 'thank you' for all of the technical staff involved with the UK's biggest ever street party.

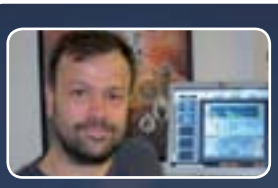
**MIDAS Consoles**
Klark Industrial Park
Walter Nash Road
Kidderminster
Worcestershire
DY11 7HJ, UK
**t** +44 (0) 1562 741515
**f** +44 (0) 1562 745371
**w** www.midasconsoles.com
**e** mkt.info@music-group.com

Sonnox

# Studio Sound - *Live*

## Bring your studio sound on the road with you.

With the highly acclaimed Sonnox plug-ins for Avid's VENUE systems,
there is no reason your show can't sound like the record.



**Andrew Thornton**
Sugababes, Pixie Lott, Girls Aloud

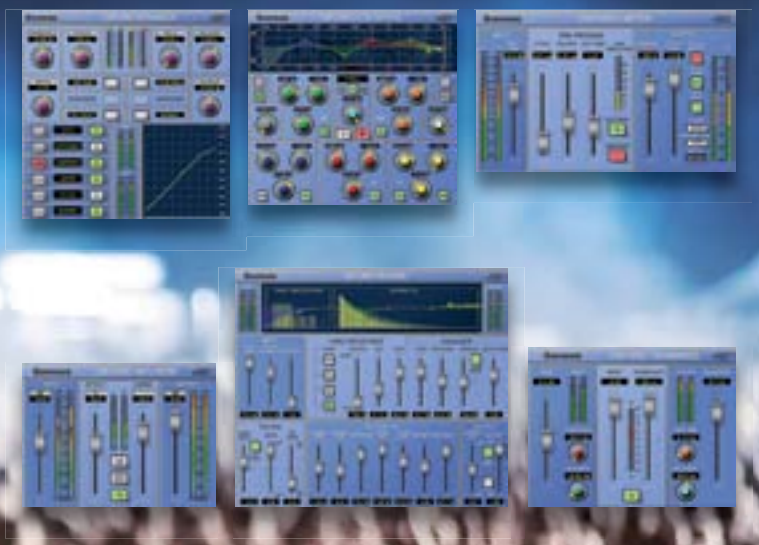
*"Sonnox plug-ins have helped me bridge the gap between studio and live processing."*

**Snake Newton**
*Duran Duran, Devine Comedy*

*"I'm an absolute Oxford EQ addict - it's just so transparent."*

**Ben Findlay**
Paul McCartney, Sting

*"The Inflator just binds everything together."*



www.sonnox.com

Oxford Plugins

# Directory

This directory lists a selection of manufacturers who are directly relevant to or in some way applicable to the live sound technology market. Apologies if we've missed you out. If this is the case, please contact us on +44 (0)1480 461555 or at mail@audiomedia.com and we will correct the ommission in the downloadable pdf version of this supplement (available from www.audiomedia.com).

**A&G Soluzioni Digitali**
www.aegweb.com

**Ableton**
www.ableton.com
+49 30 288 763 231

**A-Designs Audio**
www.adesignsaudio.com
+1 818 716 4153

**Adam Hall Group**
www.adamhall.com
+44 (0) 1702 613 922

**Adamson Systems Engineering**
www.adamsonsystems.com
+1 905 982 0520

**Aevox Audio**
www.aevox.be
+32 473 34 38 80

**Alto Professional Audio Products**
www.altoproaudio.com
+886 4 2233 5858

**AKG Acoustics**
www.akg.com
+43 1 86654 0

**Alcons Audio**
www.alconsaudio.com
+ 31 0 229 28 30 90

**Alesis**
www.alesis.com
+1 401 658 5760

**Allen & Heath**
www.allen-heath.com
+44 (0) 1326 372 070

**AMG Electronics**
www.c-ducer.com
+44 (0) 1428 658775

**AMT**
www.appliedmic.com
+1 908 665 2727

**APB DynaSonics**
www.apb-dynasonics.com
+1 973 785 1101

**Apex**
www.apex-audio.be
+32 (0) 11 28 61 91

**Aphex Systems**
www.aphex.com
+1 818 767 2929

**API (Automated Processes Inc.)**
www.apiaudio.com
+ 1 301 776 7879

**Applied Research & Technology (ART)**
www.artproaudio.com
+1 716 436 2720

**ASL Intercom**
www.asl-inter.com
+31 30 241 1901

**ATC**
www.atc.gb.net
+44 (0) 1285 760 561

**Ateis**
www.ateis-international.com
+31 (0)10 2088690

**atlantic audio**
www.atlanticaudio.de
+49 211 99 88 88 8

**Audio Toys, Inc. (ATI)**
www.audiotoys.com
+1 301 776 7879

**Audioco Systems Oy**
www.audico.fi
+358 2 415 5400

**Audio Limited**
www.audioltd.com
+44 (0) 1494 511 711

**Audio-Technica (UK)**
www.audio-technica.com
+44 (0) 113 277 1441

**Audio Video Technologies (AVT)**
www.avt-nbg.de
+49 (0) 911 5271 160

**Audio Wireless**
www.audiowireless.co.uk
+44 (0) 208 324 2375

**Audix**
www.audixusa.com
+1 503 682 6933

**Avalon Design**
www.avalondesign.com
+1 949 492 2000

**Avid Technology**
www.avid.com
+44 (0) 1753 655 999

**Aviom**
www.aviom.com
+1 610 738 9005

**Avlex**
www.avlex.com
+1 816 581 9103

**B-52 Professional**
www.B-52PRO.com
+1 323 277 4100

**Barth Acoustic Systems**
www.barth-acoustic.com
49 (0) 7022 50 35 07

**BBE Sound**
www.bbesound.com
+1 714 897 6766

**Behringer**
www.behringer.com
+49 2154 9206 0

**Beijing 797 Audio**
www.797audio.com
+86 10 5978 9246

**beyerdynamic**
www.beyerdynamic.com
+49 7131 617 0

**Blue Microphones**
www.bluemic.com
+1 818 879 5200

**Bosch Communications Systems**
www.boschcommunications.com
+49 (0) 9421 706 307

**Bose**
www.bose.co.uk
+44 (0) 1634 224 258

**Bricasti Design**
www.bricasti.com
+1 781 306 0420

**BSS Audio**
www.bssaudio.com
+1 801 566 8800

**Buzz Audio Ltd**
www.buzzaudio.com
+64 (0)4 472 3084

**BXB Electronics**
www.bxb.tw
+886 (7) 9703838

**CAD Professional Microphones**
www.cadmics.com
+1 440 349 4900

**Cadac Electronics**
www.cadac-sound.com
+44 (0) 1582 404 202

**Celestion International**
www.celestion.com
+44 (0) 797 349 3471

**Cerwin-Vega!**
www.cerwin-vega.com
+1 954 316 1501

**Chameleon Labs**
www.chameleonlabs.com
+1 206 264 7602

**Chandler Limited**
www.chandlerlimited.com
+1 319 885 4200

**CharterOak Acoustic Devices**
www.charteroakacoustics.com
+1 860 698 9794

**ClearCom**
www.clearcom.com
+44 (0) 1223 815 000

**Clockaudio Ltd**
www.clockaudio.com
+44 (0) 23 9225 1193

**Coda Audio**
www.codaaudio.com
+49 (0) 511 866 55 888

**Coles Electroacoustics**
www.colesselectroacoustics.com
+44 (0) 1992 466 685

**Countryman Associates**
www.countryman.com
+1 650 364 9988

**Crane Song**
www.cranesong.com
+1 715 398 3627

**Crest Audio**
www.crestaudio.com
+1 866 812 7378

**Crowley & Tripp**
www.soundwaveresearch.com
+1 508 231 4515

**Crown Audio**
www.crownaudio.com
+1 574 294 8000

**d&b audiotechnik**
www.dbaudio.com

**DAS Audio**
www.dasaudio.com
+34 96 134 0206

**DAV Electronics**
www.davelectronics.com
+44 (0) 20 8892 9334

**dB Technologies**
www.dbtechnologies.com
+49 2203 9253723

**dbx Professional Products**
www.dbxpro.com
+1 801 568 7660

**Delec Audio und Videotechnik**
www.delec.de
+49 6351 13170

**DiGiCo UK**
www.digiconsoles.com
+44 (0) 1372 845 600

**Digigram**
www.digigram.com
+33 (0)4 76 52 47 47

**DPA Microphones**
www.dpamicrophones.com
+45 4814 2828

**Drawmer**
www.drawmer.com
+44 (0) 1924 378 669

**Duran Audio**
www.duran-audio.com
+31 418 515 583

**Dynacord**
www.dynacord.com
+49 (0) 9421 706 0

**Earthworks**
www.earthworksaudio.com
+1 603 654 6427

**Eastern Acoustic Works**
www.eaw.com
+1 508 234 6158

**Ecler Laboratorio de Electro-Acustica**
www.ecler.es
+34 902 22 14 00

**Electro-Voice**
www.electrovoice.com
+1 866 782 8346

**Elysia**
www.elysia.com
+49 (0) 2157 12 60 40

**EM Acoustics**
www.emacoustics.co.uk
+44 (0) 1483 266 520

**Empirical Labs**
www.empiricallabs.com

**EOWave**
www.eowave.com
+33 145 154 195

**ESI Audiotechnik**
www.esi-pro.com
+49 (0) 7152 398 880

**Eventide**
www.eventide.com
+1 201 641 1200

**EVI Audio**
www.boschcommunications.com
+49 (0) 89 6290 0

**Extron Electronics Europe**
www.extron.com
+31 33 453 4040

**Faital S.p.A**
www.faital.it
+39 02 5277031

**Fatman**
www.fat-man.co.uk
+44 (0) 1462 492 090

**FBT Electronic**
www.fbt.it
+39 071 750591

**Focusrite Audio Engineering**
www.focusrite.com
+44 (0) 1494 462 246

**Fohhn**
www.fohhn.com
+49 7022 93323 0

**Fostex International**
www.fostexinternational.com
+81 42 546 4974

**Funktion-One**
www.funktion-one.com
+44 (0) 1306 712 820

**Furman Sound**
www.furmansound.com
+1 707 763 1010

**Gefen**
www.gefen.com
+1 818 772 9100

**George Massenburg Labs**
www.gmlinc.com
+1 615 790 1016

**Grace Design**
www.gracedesign.com
+1 303 443 7454

**Groove Tubes**
www.groovetubes.com
+44 (0) 1795 538877

**Hear Technologies**
www.heartechnologies.com
+1 256 922 1200

**Heil Sound**
www.heilsound.com
+1 618 257 3000

**HK Audio**
www.hkaudio.com
+49 (0) 68 51 905 0

**HM Electronics (HME)**
www.hme.com
**+1 858 535 6060**

**InnovaSON**
www.innovason.com
+33 (0) 297 24 34 34

**Inter-M Corp.**
www.inter-m.com
+82 2 2289 8141 8

**JBL Professional**
www.jblpro.com
+1 818 894 8850

**JoeCo**
www.joeco.co.uk
+44 (0) 1223 911 000

**Joemeek**
www.joemeek.com
+1 877 563 6335

**Josephson Engineering**
www.josephson.com
+1 831 420 0888

**JTS**
www.jts.com.tw
+886 4 24938803

**Klark Teknik**
www.klarkteknik.com
+44 (0) 1562 741515

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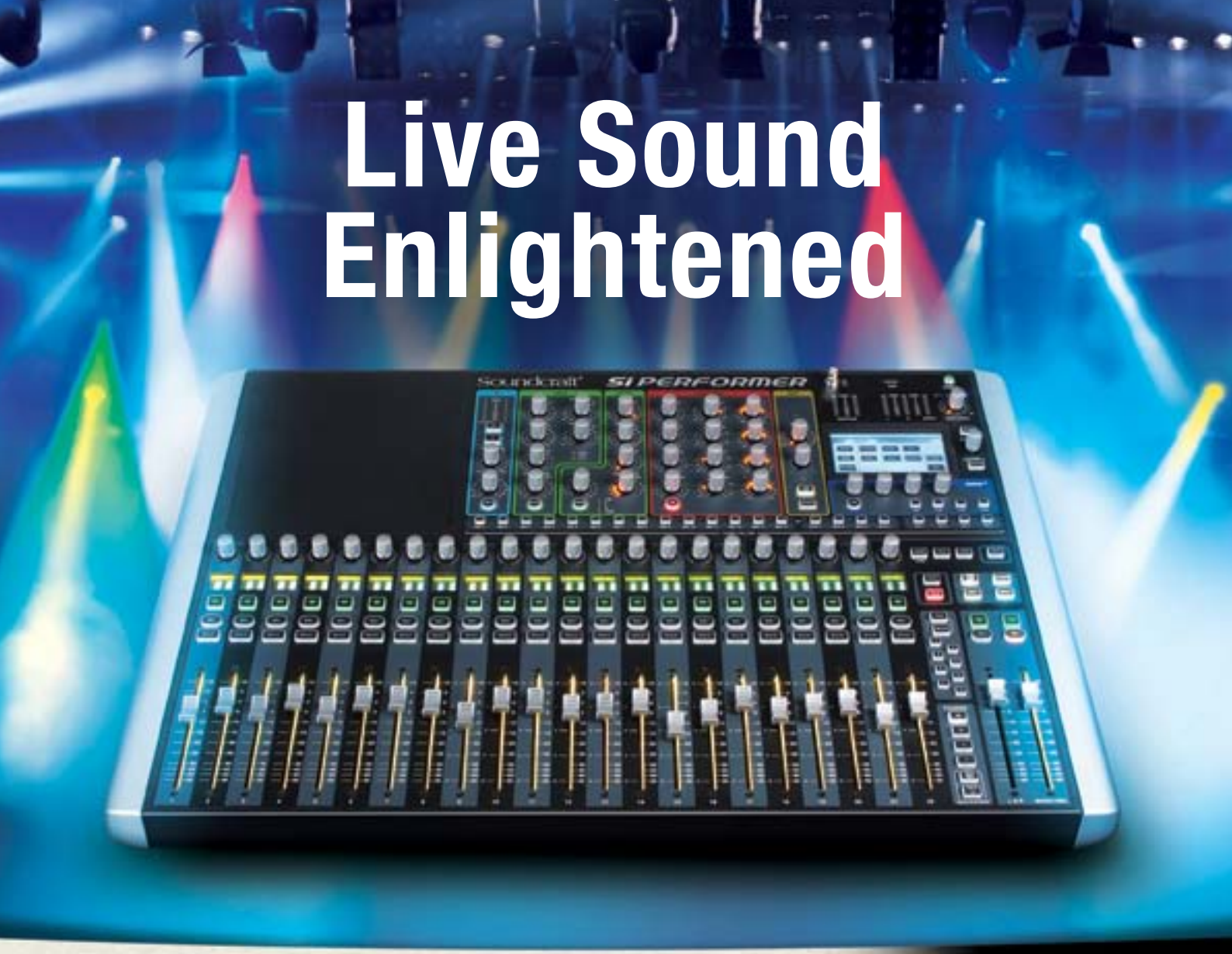


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